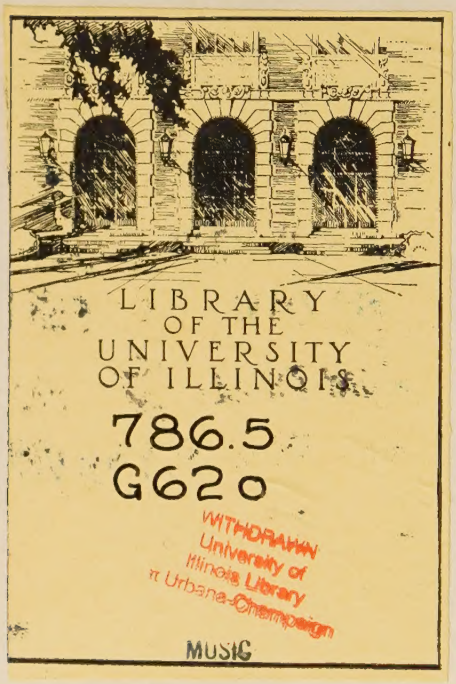


LIBRARY
OF THE
UNIVERSITY
OF ILLINOIS

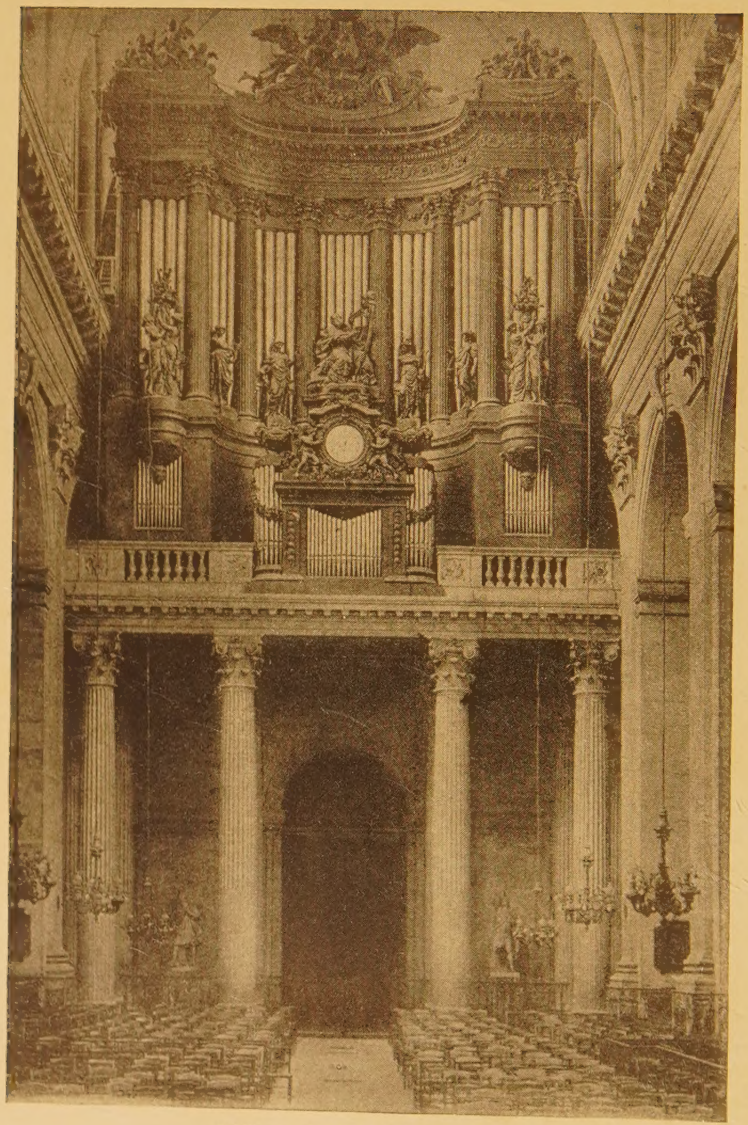
786.5
G620

WITHDRAWN
University of
Illinois Library
at Urbana-Champaign

MUSIC

Digitized by the Internet Archive
in 2025

https://archive.org/details/bwb_C0-ATA-031



SAINT–SULPICE, PARIS

THE ORGAN

THE ORGAN IN FRANCE

A STUDY OF ITS MECHANICAL CONSTRUCTION
TONAL CHARACTERISTICS AND LITERATURE
WITH SUGGESTIONS FOR THE REGISTRATION
OF FRENCH ORGAN MUSIC UPON
AMERICAN INSTRUMENTS

BY

WALLACE GOODRICH

WITH AN APPENDIX
CONTAINING THE SPECIFICATIONS OF PROMINENT AND TYPICAL
FRENCH ORGANS, AND A GLOSSARY OF MUSICAL
TERMS AND DESIGNATIONS RELATING
TO THE ORGAN

BOSTON
THE BOSTON MUSIC COMPANY
1917

Copyright, 1917, by The Boston Music Co.
For all countries

TO

MY WIFE

PREFACE

PROBABLY in no other country have the successive changes in methods of organ construction, during the last quarter of a century, more nearly justified the designation "revolution" than in the United States.

At the beginning of this period, making due allowance for the individual methods or characteristics of various builders, practically all organs followed a general standard with regard to character of specification and the purposes for which they were built. Organs designed for concert use were found in some of the largest auditoria, and occasionally in smaller halls; the size of church organs was governed by the proportions of the edifices in which they were placed, and to a certain extent by demands of liturgy or form of worship. A few private residences boasted instruments of more or less importance, yet differing but slightly from the standard established for the types previously mentioned.

With the successful introduction of the electro-pneumatic system, it may fairly be said, the course of organ-building entered divergent channels. The new system contained nothing in itself to alter the standard organ of the period in any respect save ease of manipulation. And yet it made possible the successive inventions, whose adoption, to any considerable degree, has produced an instrument of widely different resources from its prototype. With the development of new possibilities of contrast and expression, of structural disposition

and mechanical control, arose new fields, perhaps hitherto undreamed of; in some cases requiring for their successful exploitation a technique and repertoire quite individual. To realize the extent of these developments we have but to compare the use of the organ in church and in occasional concert thirty years ago with the variety of additional employment afforded it to-day, the character of the instrument necessarily varying according to the individual demands of such employment: in municipal halls, or even in the open air, the medium of frequent if not daily concerts; in the house or school, most often fitted with so-called "self-playing" appliances which facilitate acquaintance with the masterpieces of orchestral repertoire; in the theatre, where instruments of a special type either have been added to the orchestra or have supplanted the latter entirely; and finally, even as a "featured attraction" of vaudeville houses and cinematographs.

It is not my purpose to discuss the many steps of invention and development which have given us the organ, or rather organs, of to-day; for it must be obvious that instruments most suitable for the work in any one of the fields above mentioned may differ in detail from those designed for others far more materially than did the various instruments of thirty years ago from one another. Suffice it to say that in scientific achievement in the invention and application of mechanical resources, particularly electric, — in the results of profound study and technical experiment in the domain of physical laws and phenomena, — in the production of new beauties of tonal quality, and in elasticity of expression, — the activities of the past quarter of a century in this country have borne rich fruit. Mechanical precision and ease of operation have been brought to a higher degree of excellence than ever before; while mechanical accessories are now

provided in a profusion and variety which facilitate the attainment of effects hitherto impossible.

The relation of these improvements to the previously established conception of the organ as an instrument, and of its legitimate function, it is not my province to discuss. Many believe that the new methods have emancipated the organ from the fetters of mechanical limitations, while others maintain that at least in extreme cases an essentially new instrument has been evolved, possessing a field of usefulness and demanding an individuality of treatment peculiarly its own. One thing is certain: that under discriminating and skilful direction the new methods adopted in recent years have given our organ-builders of to-day the opportunity to produce work possessing at once such artistic excellence and interesting possibilities as could seldom have been vouchsafed to their predecessors, working under existing limitations.

Only the future can determine the exact value of these new methods. When judiciously employed, it is incontestable that they will greatly increase the technical possibilities of the organ. But to prove their artistic as well as their commercial value, they must awaken a corresponding development of musical faculties on the part of executants, and stimulate interest in the organ among musicians and composers. Especially must the latter be inspired to augment a repertoire which is none too rich in modern works of genuine musical importance.

It is useless to expect such interest to be stimulated by endless and generally fruitless discussions among organists and others of the justification of performing orchestral arrangements upon the organ; while one holds that little else is of real interest, another discountenances the use of transcriptions unreservedly. Recent works treating of the progress of the past half-century

are wont continually to lay stress upon the enlargement of the imitative powers of the organ, through tone and touch. This conception of the eventual function of the instrument is certain to win popular acclaim, but it must not be permitted to dominate at the expense of features which are indispensable to the preservation of the individuality of the organ and to the musical development of its performers.

There are arguments, and sound ones, to be advanced both for and against the inclusion of transcriptions in the organ repertoire, assuming that such inclusion is dictated by artistic considerations and accomplished with a due regard for conditions of time and place. The question really is: Does the frequent performance of transcriptions tend better to develop and display the individuality of the organ as a musical instrument? Does it assist the performer in the acquisition and maintenance of the true organ style in performance? Does it increase the respect for the instrument shown by musicians at large — by players on other instruments, by conductors, by critics? Does it promote in the greatest composers of our time interest in the creation of original works for the organ? These are the really vital questions.

Or again, the problem of the standardization of consoles, beyond the attainment of uniformity in certain measurements, — or of the advantage of one system of stop-control over another: — these, with many other questions of relatively equal unimportance, are in danger of being unduly emphasized, to the exclusion of consideration of matters far more essential to the future of the organ and of its players. It is eminently proper that our organists should interest themselves in organ construction, and acquire a technical knowledge of the subject which will enable them intelligently to weigh its

merits and its imperfections. In France an eminent authority has deplored the fact "that an organist is not obliged to understand the construction of the instrument which he is called upon to play. In many a case he would unquestionably profit thereby, since he would be obliged to take into exact account the properties and defects of the instrument and to utilize them to best advantage."

But again, interest in organ construction must not be permitted to divert our attention from the broader consideration that the highest function of any musical instrument is to serve as an adequate means of expressing musical ideas of intrinsic value; whether that instrument be the organ, with its infinite variety of resource, or the pianoforte, or the violin, or the human voice.

The very advantage offered to the organist of to-day in the possession of an instrument perfected through the medium of new methods of construction adopted in recent years, will prove to be actually antagonistic to the realization of this ideal, if we conceive that the chief duty of the organist is to "show off the organ." In these days competition among organ-builders is necessarily keen; and while there is no question that every reputable builder strives to employ only such methods of mechanical construction as, in his judgment, assure the greatest possible degree of precision and durability, it is but natural that many should strive to characterize their instruments by such tonal and accessory features as will the better establish their claim to superiority over all others. New construction, rather than the rebuilding of older instruments, is sought and encouraged by nearly all builders; and not unnaturally, considering the probability that the older organs are inferior in size and action to those by which they can be replaced.

When compositions of recognized worth are performed

on other instruments, the excellence of the instrument itself is not given first consideration by the auditor. The genius of a Stradivarius did not inspire the composition of the violin concertos of Mozart, of Beethoven, of Mendelssohn, of Brahms; but it is certain that the beauty of his instruments increases the pleasure derived from the performance of these works by an accomplished artist. And so with the pianoforte. The richness of its repertoire is not the result of the constant improvement recorded in pianoforte construction, leading up to the superb specimens of our contemporary manufacture; yet these latter instruments materially enhance the effect in performance of the whole pianoforte literature.

Modern organ construction, likewise, offers equal and even greater advantages to the interpreter of organ music; but if the organ is to be considered worthy of rank with other instruments it must base its claims to consideration upon their common ground. The **matter** of its speech, not alone the manner, must justify its designation as the "King of Instruments." If our modern organ is truly a new creation, if much of the older repertoire is now found wanting in interest and expression, the serious responsibility rests upon the builder of this modern instrument to encourage and effect the production of a new literature, adapted to the new conditions, but possessing all the intrinsic merit of the older school, and suffering nothing by comparison with the established repertoire of the orchestra and of individual instruments.

But if we except certain extreme types of modern construction, designed to meet conditions which have a different claim to artistic consideration, the organ of to-day is in no sense a new creation. In mechanical construction immense advance has been made, even though the extent to which the systems of augmentation and borrowing are being utilized is a cause for deep concern. In tonal

characteristics, also, great progress over former conditions has often been realized, although usually in the field of individual voicing rather than in that of general balance and sonority. And yet the essential being of the organ remains unchanged, as indeed it has since the time of Bach; it presents no new conditions calling for radical departure from accustomed lines in composition.

On the other hand, the general excellence of the modern instrument and the variety of its resources should stimulate the organist to efforts commensurate with the advantages offered him. He must not regard the exploitation of these resources as his artistic goal, but rather their employment as a means of musical expression. By his choice of repertoire and the manner of its performance he must encourage the production and perpetuation of such works as accord with, and will perpetuate, a true conception of the individuality of the organ; and he must strive to perfect himself in the art of improvisation, which is so essential to his musical development. Thus must the future of organ playing and of the organ and its literature be safeguarded in our country.

Upon such foundations the French school of organ playing and organ composition has been reared. In no other country has the organ achieved so high a position of honor among musicians, or have so many of the greatest contemporary composers interested themselves in the organ, both as executants and as writers of organ music. I refer particularly to composers of established reputation and recognized preëminence in all forms of music: orchestral, instrumental, and choral. Unquestionably the very diversity of field in which they have labored has led them to treat the organ the more individually; for necessarily it has been instinctive in them to differentiate sharply between the various media of expression for which they write. Thus a well-known French writer

affirms that "dramatic composers are better fitted than others to write and to judge of religious music."

Probably the last man who would think of treating the organ as an imitative instrument is the successful and discerning composer for orchestra. Witness the use of the organ by dramatic composers of all schools. Whatever the operas, whether *Die Meistersinger* or *Le Prophète*, *Manon* or *Gioconda*, *Faust* or *Tosca*, the sound of the organ is employed invariably and exclusively to heighten the suggestion of the ecclesiastical, or at least of the religious. The same is true in orchestral composition; as in the *Dante* symphony of Liszt and the *Manfred* of Tschaikowsky; in Strauss's *Also Sprach Zarathustra* and Loeffler's *Villanelle du Diable*, to name a few works at random. A striking example of the use of the organ more especially as an adjunct to orchestral color is found in the last act of *I Gioielli della Madonna;* but even here, amid painfully incongruous surroundings, the composer, obviously, has sought to convey a subtle suggestion of the yearning of the distracted Gennaro for the Paradise whose attainment he believes vouchsafed to him.

As works of art, capable of favorable comparison with contemporary compositions for other instruments and for the orchestra, the creations of the French composers who have striven to emphasize what they conceive to be the true individuality of the organ, possess peculiar interest, in view of the justly established position of authority of these men among the first composers of our time. If we are to perform their works adequately, and thus enrich our repertoire by compositions of unquestioned authority and value, it is indispensable to their proper interpretation that the resources and characteristics of the instruments for which they were conceived be thoroughly understood by the executant; even as the orchestral conductor who would interpret masterworks

of the older classicists must be able to bring to such interpretation an intimate knowledge of the orchestral conditions pertaining to their time. Our task, then, is one of constructive analysis, not of criticism influenced by prejudiced conservatism.

Unfortunately, little dependence can be placed upon many of the published "editions for American organs" of standard French compositions. Their editors have too often been misled into the general employment of literal translation, so that apparent adherence to their designated registration may be disastrous to a proper interpretation of the composition; owing to the widely different character of certain details of construction and nomenclature, often bearing the same designation in the two countries. To show how the spirit of these compositions may be attained in performance upon our American instruments is the purpose of this book. Although I shall consider the subject exclusively from the standpoint of the American organ, it is probable that at least those portions referring more especially to matters of nomenclature and adaptation are equally applicable to English instruments.

It would obviously be difficult to apply such a study to all types of American organs, whose extremes differ so widely from one another. For example, whatever merit the so-called "unit system" may possess for special fields of work, its fundamental principles of construction and specification are so radically different from those of the typical French organ as to render comparison practically impossible. In speaking hereafter of the American organ, therefore, I shall refer to the type more generally found in our churches and concert-rooms, voiced and equipped as to mechanical accessories in the manner commonly adopted by our foremost contemporary builders. Similarly, since general characteristics of organ construction differ but little among the several

French builders of prominence, it is my purpose to treat of the typical French organ, with only occasional reference to specific instruments.

In conclusion, I would gratefully acknowledge my indebtedness to all who in any way have assisted me in the preparation of this work; especially to M. Charles Mutin of Paris and Mr. J. C. Casavant of Saint-Hyacinthe, Quebec.

WALLACE GOODRICH

Boston, November 15, 1916

CONTENTS

PAGE

PREFACE v

PART I

THE FRENCH ORGAN

CHAPTER

I. THE USE OF THE ORGAN IN FRANCE 1
II. FRENCH ORGAN COMPOSITION 7
III. GENERAL CONSIDERATIONS 14
IV. THE MANUALS 21
V. THE PÉDALE 31
VI. MECHANICAL ACCESSORIES 35
VII. NOMENCLATURE AND CLASSIFICATION OF REGISTERS . 44
VIII. PREDOMINANT CHARACTERISTICS OF REGISTRATION . 49

PART II

THE ADAPTATION OF FRENCH REGISTRATION TO AMERICAN ORGANS

IX. THE MANUALS 64
X. THE PÉDALE 82
XI. FOREIGN EDITIONS 96
XII. AMERICAN EDITIONS 104

APPENDIX

SPECIFICATIONS OF IMPORTANT AND TYPICAL FRENCH ORGANS 113
GLOSSARY 137
BIBLIOGRAPHY 155
LIST OF ORGAN COMPOSITIONS REFERRED TO . . . 157
GENERAL INDEX 161
LIST OF ILLUSTRATIONS 167

THE ORGAN IN FRANCE

PART I

THE FRENCH ORGAN

CHAPTER I

THE USE OF THE ORGAN IN FRANCE

The primary function of the organ in France has ever been and still remains, the accompaniment and embellishment of divine service.

At the beginning of the present century it was estimated that over ninety per cent of the Christian population of France was Roman Catholic. The *Concordat*, or convention concluded in 1801 between Napoléon Bonaparte and Pope Pius VII established definite relations between France and the Holy See in Rome, or between "Church and State." The *Concordat* was not abrogated until the passage of the Law of Separation in 1905.[1]

The country is divided into eighty-four dioceses, exclusive of the Colonies. Each of these dioceses is again divided into parishes, varying in size from one or more villages to a portion of a town or city. For the purpose of illustration let us consider the city of Paris.

The twenty *arrondissements*, or wards, of Paris are divided into seventy-eight parishes, each with its parish church (including the metropolitan church or Cathedral of Notre Dame); which, with the addition of a few missions for foreigners and the private chapels of religious orders, charitable institutions, and schools, min-

[1] One immediate effect of the latter proceeding was the material reduction of the financial support hitherto afforded the musical establishments of cathedrals and parish churches, caused by the withdrawal of the State subventions previously enjoyed. In many cases the continued maintenance of former resources was thus rendered impossible.

ister to the Roman Catholics in a population of about 2,800,000.[1] At the ratio of Roman Catholic to Protestant already mentioned, each of these seventy-eight parishes contains a Roman Catholic population averaging about thirty-five thousand souls. The smallest parish (that of the Cathedral itself) numbers 6800; the largest (Sainte-Marguérite in the rue Bernard) over 96,000; while no less than seventeen parish churches are each situated in a district having a total population of over 50,000 within the parochial limits.

Considering the comparatively large number of regular worshippers in proportion to the total population, it is obvious that each of these parish churches must afford facilities for frequent services, since only a portion of the total attendance on any given day could possibly be accommodated in a single church edifice at one time.[2]

[1] The relatively small number of church edifices in French cities as compared to that in our own has a distinct bearing upon the importance of the organ positions in the former, as well as upon the number of musicians whose services are likely to be utilized in the capacity of church organists. In this connection the following comparative table is interesting; the figures are in a few cases approximate, but undoubtedly fairly accurate.

	Population			Churches		Seating Capacity	
	Total	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant
Paris	2,888,110*	2,800,000	60,000	78	60‡		
New York	4,766,883†	1,642,140	296,898§	290	1,104	239,792	567,720
Chicago	2,185,283†	308,000	210,965§	108	742	71,708	339,693

*Census of 1910 †Census of 1911 ‡Estimated
§Communicants only

[2] "It should be remembered that among Catholic congregations it is customary to hold many services on Sunday in the same edifice, at which different portions of the congregation attend. Although

SAINT-SULPICE, PARIS

THE NAVE

Even then, the church must be of considerable size and seating capacity, simple in interior design and furnishings. In French churches the floors are usually of stone; movable wooden chairs take the place of pews, and carpets and hangings are conspicuous by their absence. There results an auditorium of extreme resonance, which exercises an essential influence upon acoustic properties and the effect of the organs.

Under the Roman system the forms of service have remained virtually unchanged for many years. Gregorian music, or Plainsong, and mediæval polyphony have been generally cultivated in France as nowhere else, unless in Italy, especially in recent years; under the leadership of the Schola Cantorum [1] a lively interest has been awakened

similar conditions exist to some extent in other denominations, yet in most Protestant churches there are not ordinarily more than two services, while many Catholic churches have two or three masses, and some as many as six or seven, every Sunday, each usually attended by a different body of worshippers, besides the afternoon and evening services." (U. S. Census Report on *Religious Bodies*, Part II. 1906.)

[1] The Schola Cantorum was founded in Paris, in 1896, by MM. Charles Bordes, Alexandre Guilmant and Vincent d'Indy, its objects being "the performance of plainsong according to Gregorian traditions; the restoration of mediæval polyphonic music to a position of honor; the creation of a modern school of music." M. Bordes, as director of the famous *Chanteurs de Saint-Gervais* (the choir of the Church of Saint-Gervais, Paris) had already performed valiant service in awakening an interest in music of the Palestrinian style, through its performance as a part of the regular worship of his parish. From modest beginnings, in the somewhat restricted field of ecclesiastical music, the Schola Cantorum has developed into a conservatory with more than three hundred pupils, with a large and eminent faculty, and with courses in all branches of music. It still exercises a potent influence in the field for which it was originally established, has organized similar institutions in various cities of France, and provides performances of works of unusual interest, which it has published under its own auspices.

Since the death of M. Bordes, M. Vincent d'Indy has been the Director. (See Pierre Aubry: "*Sur le Chant de l'Église*" in *Le Correspondent*, Paris, July 10, 1904.)

in the restoration of the masterpieces of unaccompanied polyphony of the sixteenth and seventeenth centuries to their rightful place in the services of the Church.

Our first consideration is the employment of the organ. In the more important cathedrals and parish churches of France the French system provides a small organ for the accompaniment of the choir, called "*orgue de chœur*," or choir-organ; it is usually placed near the chancel (sometimes behind the high altar), for the sole purpose of accompanying the choir.[1]

The *orgue de chœur* is used to accompany in simple harmony, the unisonous plainsong, in chant or melody, and to support the choir in motets or figured masses, as may be necessary. It is often reinforced by contrabasses,[2] undoubtedly owing to the lack of sonority in its somewhat meagre *Pédale*.[3]

This *orgue de chœur* is played by the choirmaster or his deputy, the choir thus being given the inestimable advantage, from a musical point of view, of being conducted by its leader during service whenever desirable.[4]

The solo organ, called the *Grand Orgue*, is ordinarily placed in a gallery or *tribune* at the west end of the nave,[5] over the main entrance. To this instrument, usually large and sonorous, is intrusted the task of the

[1] The first "*orgue de chœur*" was constructed by John Abbey, an Englishman, in the Church of Saint-Étienne-du-Mont in Paris, in 1830. It was subsequently removed to the Church of Saint-Roch, where it was installed in the Lady Chapel.

[2] See illustration opposite page 110.

[3] See Appendix, Specifications XVI and XVII.

[4] It may be remarked that this feature is denied to many of our American chorus choirs, often to their distinct disadvantage; in many cases resulting in a material restriction of available or practical repertoire.

[5] Architecturally speaking, the high altar is always assumed to be at the eastern end of the church; the north and south aisles or transepts are thus at the left and right, respectively, facing the altar; the west end is that opposite the altar.

artistic embellishment of the service, unhindered by considerations or exigencies of accompaniment, either of choir or of congregation. This independence of organ and choir increases rather than diminishes the responsibility of the principal organist (called the *organiste du Grand Orgue*), since it requires and thereby encourages facility in improvisation; and it has offered opportunity for performance in a solo field which in Protestant countries must generally be sought in the concert room or in recital, or else while the congregation is entering or leaving church. It has also emphasized the close relationship of the organ to ecclesiastical use, accustoming the public thus to associate it, and to fail to take equal interest in organ performances dissociated with church service.

The services which are habitually rendered with the greatest elaboration on Sundays and feasts, and which are attended by the largest congregations, are the High Mass of the morning and Vespers of the afternoon; with occasional week-day masses of marriage or requiem. In the special services of the latter part of Holy Week the organs are of course silent, except as prescribed by the ritual.

On Sundays and feasts the principal Mass is frequently preceded by one of the minor offices and followed by another.[1] Similarly Vespers may be preceded by *Nones*.

[1] For many centuries these minor offices, known as the Daily Hours or Choir Offices (because of their being said or sung in choir and not celebrated at the altar) have formed the daily devotional rule of the Roman Catholic Church. They are eight in number, as follows:

Matins; Lauds; Prime; Tierce; Sexte; Nones; Vespers; Compline. With the exception of Vespers these offices are usually rendered publicly to-day only in conventual or monastic establishments, and cathedrals. In England *Tierce*, *Sexte*, and *Nones* had already fallen into disuse by the middle of the sixteenth century, so that in 1549 the Anglican services of Morning and Evening Prayer were compiled from the first three and last two of the eight original offices, respectively. (See Blunt's *Annotated Book of Common Prayer*, rev. ed. 1903, pp. 6, 17, 18.)

All of these services are said in choir, and thus any organ prelude or postlude to the major service, if played at all, is of necessity short and of comparatively lesser importance, except as it may serve as an admirable example of concise, symmetrical, and appropriate improvisation. It is in the interludes or organ responses to the several versets of *Kyrie eleison*, of Psalm or Canticle, based upon their melodies or antiphons respectively, that the artistic resource and ability of the executant are displayed, often to an astonishing degree; while opportunity for the performance of masterpieces of organ composition, or for extended and remarkably skilful improvisations, is furnished at the Offertory and at other portions of the liturgy. Even a casual inspection of the works of nearly all of the most prominent composers of the past few decades will demonstrate the influence of the Church's ritual music, not only upon the form of many of the compositions, but as the source of the very melodies upon which they are based.

CHAPTER II

FRENCH ORGAN COMPOSITION

In the sixteenth and seventeenth centuries the designation *claveciniste* was applied alike to organists and to performers on the harpischord. The action of the two instruments was not unlike, so far as the touch was concerned, and the best-known *clavecinistes* of the time actually mastered both instruments with equal facility.

The tone of the harpischord lacked sustaining power to such a degree that every encouragement was given to the use of ornaments and *abbellimenti;* and the organs of the period as well, whatever may have been the sweetness of their tone, were conspicuously weak in volume, and consequently in carrying quality; thus they were devoid of the dignity and grandeur which we associate with the instrument to-day.

It was but natural that composition for the one instrument should have followed lines not radically different from that for the other; but it was greatly to the advantage of the organ that its repertoire could thus be drawn from the works of the best contemporary composers, among them Rameau, Couperin, Daquin, Clérambault; together with the organists Grigny, Le Bègue, Nivers, André Raison, Titelouze.

Conditions affecting French music in general could not fail to exercise equal influence upon organ composition, and at the middle of the nineteenth century the greater part of the contemporary repertoire was trivial and mediocre in quality. The years which had seen men of the calibre of Cherubini, Méhul, Halévy, and

Berlioz lifting French orchestral and choral music to a high artistic level, brought forth little or nothing for the organ comparable to their works. A French writer himself is authority for the surmise that at the time Berlioz produced his immortal *Symphonie fantastique* and the Harald symphony, Paris might have been searched in vain to find two organists who knew the B-minor fugue of Bach.

In 1846, a young Belgian, Nicholas Jacques Lemmens by name, was sent by his government to study the organ at Breslau with Adolf Friedrich Hesse, the eminent German organist. Hesse was not unknown in Paris, as he had taken part in the inauguration of the organ in the Church of Saint-Eustache, in 1844.

While Lemmens was under Hesse's guidance the revival of interest in Bach's works, initiated by Mendelssohn in 1829, was being crowned by the publication of Bach's complete organ compositions under the supervision of Griepenkerl and Roitzsch; an edition destined to maintain its superiority for practical purposes until within the past few years. The last of Bach's pupils, Kittel, had been dead less than four decades; Rinck, Kittel's pupil, was still living; and thus the influence of Bach upon the young Belgian must have been potent. Soon after Lemmens' return to Brussels his *École d'Orgue* was published, based upon the Roman plainsong; a work which marked the dawn of a new era in the character of French organ music.

In 1858, Camille Saint-Saëns was appointed organist of the Church of La Madeleine, in Paris; a year later, César Franck was chosen for the similar position at the Church of Sainte-Clothilde. Both had been organ pupils of Benoist, at the Paris Conservatory.[1] In 1870,

[1] The *Conservatoire Nationale de Musique* was founded in 1784, under the name *École Royale de Chant et de Déclamation*, for the edu-

Alexandre Guilmant was called from Boulogne-sur-Mer to the organ of the Church of La Trinité, and one year later, Charles-Marie Widor became organist of the Church of Saint-Sulpice, which position he still holds. Both Guilmant and Widor were pupils of Lemmens.

To these men, more than to any others, may justly be accorded the honor of having raised French organ music to a plane from which it has not since departed; to-day it is surpassed in intrinsic merit by the organ literature of no other country.

In choosing for special mention the names above cited, I am by no means unmindful of the artistic claims and achievements of many of their contemporaries, among others Gigout, Dubois, and Boëllmann; nor of the younger generation of organists, and of their fidelity to the standard intrusted to them.

In anàlyzing briefly the characteristics of organ compositions of the French school, it would seem natural to consider many of those of Guilmant, and the later works of Widor, as influenced particularly by the liturgical music of the Church, and by the association of the organ with religious service. The teaching of the organ school of Lemmens, their master, and his training in the "Bach style," if I may use a somewhat trite expression, are clearly seen in their treatment of the organ as regards musical thought and simplicity of registration,

cation of opera singers. It soon adopted the name it now bears, and gradually developed into the famous institution of to-day. All branches of music are taught by a faculty which has always included many of the most eminent musicians of France. The present director is M. Gabriel Fauré; among former directors were Cherubini, Auber, Ambroïse Thomas, and Théodore Dubois.

César Franck succeeded Benoist as Professor of the Organ, in 1872, retaining the position until his death, in 1890. His successors were Ch.-M. Widor (1890-1896); Alexandre Guilmant (1896–1911). M. Guilmant was succeeded by M. Eugène Gigout.

and in the sources from which they have often derived their inspiration. On the other hand, Guilmant wrote many pieces conceived expressly for concert performance, most of which, however, are available for use at one point or another in church service. Widor's first eight *Symphonies* serve not only to demonstrate his own development as a composer, and the evolution of his own conception of the organ, but also furnish an endless variety of studies in organ touch and registrative combination.

The compositions of Saint-Saëns and César Franck give evidence of orchestral influence, although in the character of the composition only. Between this and the attempt at orchestral imitation lies a gulf which neither composer ever desired or essayed to cross. Particularly do the works of Saint-Saëns reveal characteristics of color and invention which are found in all the compositions of this most versatile of contemporary writers. And it is noteworthy that of all his published organ works only the first — the *Bénédiction nuptiale* — and the last — the *Marche réligieuse* — suggest in their title ecclesiastical influence. The *Rhapsodies* — the *Fantasies* — all are distinctly secular in character, albeit of great interest. And it must be confessed that they exhibit less of what we are accustomed to call "organ style," despite their remarkable effectiveness.

Again, with the exception of some pieces contained in the admirable collection for harmonium, none of the compositions of César Franck appear to have been conceived expressly for church use. But the spiritual quality of the *Prière* — of the *Chorales* — is unmistakable. With the two later *Symphonies* of Widor they stand as masterpieces of organ literature of surpassing worth. In them are manifest the intense religious, not to say ecstatic fervor of their composer's life.

Guilmant's fame will rest not only upon his original

ALEXANDRE GUILMANT

works for the organ, but upon his editing of masterpieces of earlier schools of all countries. With broadly catholic taste he made these works practical for performance to-day without causing them to suffer the slightest loss of their inherent simplicity and sincerity.

Widor in his last two *Symphonies* — the *Symphonie gothique* and the *Symphonie romane* — has expressed his profound conviction that true organ music must be inspired by religious melodies, and thereby consecrated to the Church. While these compositions demand for their full effect characteristics of organ specification and construction and acoustic conditions seldom found in this country, those who have heard them achieve the effect conceived by the composer cannot fail to be deeply impressed by them.

Beginning with Vierne, and continuing through the more recent compositions of Roger Ducasse and Georges Jacob, we observe that these composers have been deeply affected by the same progressive tendency in modality and harmonization which is characteristic of what we call the "modern French school." Particularly in the case of the latter composer is exhibited a predilection for "effects" which have their origin in contemporary orchestral writing, rather than in the organ compositions previously put forth by the French or any other school. In no case, however, are these compositions conceived for any type of instrument but the one commonly built in France, and which is the subject of our study.

I have now considered briefly the French school of musical thought as exhibited in published compositions. But I must not fail to emphasize the supreme importance attached by French organists to improvisation, whether as a means of technical development in study, or as a form of musical expression in actual performance.

It is fair to say that the French organist places as high a value upon the art of improvisation as upon composition; it forms the basis of instruction in the Conservatories, and is a prominent and indispensable feature of the organ's participation in the musical services of the Church.

The testimony of an eminent French organist is interesting in this connection:

"Formerly, improvisation was the basis of the organist's talent; his virtuosity was slight — music written for organ with *concertante* pedal was beyond his powers. As a compensation, we had improvisations of the highest order. Little by little our organists have bent themselves to acquire the virtuosity which they lacked, and the Fugue with obbligato pedal has become familiar to them; but at the same time, under the influence of the German school, improvisation has fallen into disrepute. It is impossible for me not to deplore this needless decadence. Without speaking of the monotony which results from it — for all organists have very nearly the same repertory — it is improvisation alone which permits one to employ all the resources of a large instrument, and to adapt one's self to the infinite variety of organs; only improvisation can follow the service perfectly, the pieces written for this purpose being almost always too short or too slow. Finally, the practice of improvisation develops faculties of invention which, without it, would have remained latent. I have just spoken of Lefébure-Wély, whose published works for organ possess such scant interest, and who was a marvelous improviser; I might mention others whose improvisations were superior to their written compositions. Necessity, and the inspiring character of the instrument, sometimes accomplish what meditation is unable to achieve. It may excite surprise to learn that the Andante of my first Sonata for piano and violoncello, and the conclusion of my Symphony in C minor, were created on the manuals of the organ.

"The most beautiful things are beautiful only in their place. And so, how can a fugue or a toccata by Johann Sebastian Bach

make its way into an offertory? They are concert pieces which bear no relation whatsoever to a Mass, and which inspire neither a meditative nor a prayerful mood; beyond the comprehension of the audience to which they address themselves, they can interest but a few rare auditors familiar with them.

"A virtuoso hardened to every difficulty, an ingenious improviser — such should the perfect organist be. It is to form such organists that they are laboring in the organ class at the Conservatory of Paris, where execution and improvisation receive an equal meed of honor." [1]

It must not be inferred that the use of the organ as a concert instrument in France is by any means negligible, and it is entirely possible that the younger school of composers will emphasize this function of the instrument more than have their forerunners. Such works as *Les Heures Bourguignonnes* of Georges Jacob, far from being conceived for use in church, even presage the influence of modern impressionism upon organ music; an influence, however, which seems little likely to become widespread.

For many years M. Guilmant was accustomed to perform the masterpieces of all schools upon the fine organ in the Trocadéro in Paris; and the number of organs recently constructed for concert halls and salons testifies to the increasing interest in the use of the organ apart from religious worship.[2]

[1] Camille Saint-Saëns, "Music in the Church," *The Musical Quarterly*, New York, January, 1916.

[2] See Alexandre Cellier, *L'Orgue Moderne*.

CHAPTER III

THE FRENCH ORGAN

General Considerations

I have noted the predominance of the Roman Catholic faith in France, and the fact that the services of this Church have remained practically unchanged for many years. Considering the comparative conservatism displayed in organ composition during a long period, it is obvious that small encouragement has been offered to material changes in methods of organ construction; and it has followed that important instruments have more often been rebuilt than replaced.

So far as the general characteristics of action and tonal disposition are concerned, the French organ of to-day was virtually established seventy-five years ago. Some of the finest organs in France have thus been favored with the advantage of improvement as regards action or individual voicing, without losing elements of special value which might not have been reproduced successfully in an entirely new instrument.

During the past century the construction or rebuilding of important organs was often directed by a commission appointed by the government; as in the case of the organs of Saint-Sulpice, Notre-Dame, Saint-Eustache and Saint-Denis. The published reports are exhaustive and interesting. Let us consider the report of the commission appointed to examine, and empowered to accept for the government, the organ of Notre-Dame, in 1868.

"It was composed of seventeen members, who represented collectively the most authoritative body possible to be organized for the purpose. Among them were Auber, director of the Conservatoire; Benoist, professor of the organ at the Conservatoire; the director of the School for Religious Music; the architect of the Cathedral, and five members of the commission upon religious art and edifices; two of the latter, with a member of the Academy of Sciences, the president of the international congress of religious music at Liège, an author of recognized scientific works upon the organ and the professor of physics at a well-known Paris school, were made a sub-committee, to devote themselves to the actual examination of the instrument. To the commission had previously been added, among others, M. Lemmens, professor of the organ at the Brussels Conservatory. To quote from the published report: 'In addition to the meeting for the general examination of the instrument, Feb. 20, the sub-committee held four sessions. There was not a tone of the instrument which was not heard, not a detail of all the vast mechanism whose precision of movement was not tested; each manual was studied with reference to the character and proportion of its registers; there was not an alteration of former methods of construction whose desirability and intrinsic value was not discussed. . . . The acoustical aspect of the instrument was the subject of long and conscientious examination. The registers of every keyboard were tried, note by note, then in combination with each other. . . . The commission devoted no less attention to the mechanical side of the instrument.[1]' "

The organ of Saint-Sulpice, Paris, one of the finest in France, also furnishes an interesting example of reconstruction. It was built in 1781 by Clicquot. It had five manuals, as follows: I. *Positif*, 18 stops; II. *Grand-orgue*, 22 stops; III. *Bombarde*, 4 stops (a *Grand cornet*, and three reeds); IV. *Récit*, 5 stops (a Flute, a Bourdon, a Cornet, a Trumpet and an Oboe); V. *Écho*, 5 stops

[1] *Ex autore: The Organ; its Construction and Treatment.*

(Bourdon, Flute, Cornet and two reeds). The *Pédale* contained 11 stops, including 5 reeds. The compass of the three lower manuals was from *AA* to e^3; of the fourth, from *F* to e^3, and of the fifth, from *C* to e^3. The *Pédale* extended from *FF* to *e*. In 1846, the number of manuals was reduced to four, affecting chiefly the two upper keyboards; the compass of all the manuals was rendered uniform, from *AA* to f^3, and the *Pédale* was given the range of *C* to e^1. In 1862, the organ was entirely rebuilt by Cavaillé-Coll; the manuals were restored to the number of five, each with a compass from *C* to g^3, and the *Pédale* was extended upwards to f^1. In 1903, the action was regulated, the pipes cleaned and some minor alterations effected; but the present specification, as given in the Appendix, differs but slightly from that of 1862.

The fine organ of the Cathedral of Notre-Dame, in Paris, was reconstructed from the existing one in 1868, also by Cavaillé-Coll, and again renovated by the same builder in 1894; while a few stops were added to the *Récit* in 1899.

The organ constructed in 1841 for the Royal Church of Saint-Denis (Paris) by Aristide Cavaillé-Coll [1] made

[1] Aristide Cavaillé-Coll, probably the greatest of all French organ-builders, was born in Montpellier February 2, 1811. Both his father and grandfather had achieved distinction in the same profession, and the name Cavaillé (he took the name Coll from his grandmother), had been associated with organ-building since the beginning of the eighteenth century.

Aristide C.-C. established his claim to recognition by the instrument which he completed in 1841 for the Église Royale de Saint-Denis, Paris (see Appendix: specification V). He continued his active pursuit of the art in which he became preëminent, until the year 1898, when he retired and was succeeded by his pupil Charles Mutin. M. Cavaillé-Coll died in Paris, October 13, 1899.

Notable improvements for which the French organ is indebted to Cavaillé-Coll are the introduction of tracker-pneumatic action for key- and register-action; of harmonic pipes; of wind-pressures varying in different parts of the compass of each stop, thereby insuring its correct and effective speech throughout its range; the introduction

ARISTIDE CAVAILLÉ-COLL

use of tracker-pneumatic action for the first time, through the introduction of the so-called Barker pneumatic-levers; the "*machine Barker*," as it was called by the French. This device permitted the use of increased wind pressures and thus of harmonic pipes; although advantage was taken of the former only to a moderate degree.

During the succeeding years of activity of this greatest of all French builders, practically his entire effort was directed toward the development and perfection of standard methods of construction, as to action and tone. New timbres were sought less than greater beauty of existing tone-colors. Until recent years, and then only with certain builders, electric action has never found favor in France; and it naturally follows that innovations which have been made possible in organs in other countries solely through the medium of electric action, have as yet found no general adoption in French instruments. Nor does it seem probable that they will. As regards perfection of mechanism, promptness of response, and uniformity of regulation, coupled with such ease of manipulation as is of any real advantage to the French organist, the degree of excellence attained by the tracker-pneumatic action, as perfected by Cavaillé-Coll, is all that could be desired.[1]

of divided wind-chests (*sommiers à doubles laies*), giving from the keyboard independent control of certain stops on a single manual; the artistic solution of the mixture problem; giving the Swell-organs (*Récits*) their present effectiveness through the profusion and quality of their registers; the more equal division of stops between the several manuals, effecting better relative balance.

Among the organs which testify to the skill of this builder, which were either built or reconstructed by him (in addition to those whose specifications are appended to this book), are those of Saint-Roch, Saint-Vincent-de-Paul, Saint-Augustin, La Trinité, in Paris; Saint-Michel, Havre; Palais d'Industrie, Amsterdam; Town Hall, Sheffield (England); Conservatory of Music, Moscow.

[1] Recent program annotations by an English organist contain the following gem. The incorrectness of its premise may be overlooked,

The modern French schools of organ-playing and of composition are founded upon the typical French organ, as exemplified in the work of this builder and of his successor, M. Mutin. The development of imitative qualities in the organ has been practically disregarded, in the determination to preserve and enhance what the French conceive to be the true individuality of the instrument. Thus it follows that organists and composers, influenced as they must be by the character of the instruments to which they are accustomed, and which most attract their interest, have devoted themselves to the establishment of a school which all but ignores the trend toward orchestral imitation which is becoming more and more a marked feature of contemporary construction and performance in America.

All of the foregoing must be kept in mind as affecting our present study, for it is my intention to treat particularly of the means necessary to achieve upon American organs the effects conceived and actually realized by French composers upon their own instruments.

The most striking points of difference in the construction and effect of French and American organs may be summarized as follows:

Position of the organ and acoustic conditions of the edifice.
Characteristics of specification, regarding the selection and grouping of registers.
General characteristics of voicing.
Relative position of the manuals.
Nature and operation of mechanical accessories.

in view of the new and fascinating artistic possibilities vouchsafed the organ by "modern action":

"Until a comparatively recent time, rapid Staccato passages were impossible on the organ, owing to its heavy touch. The improvements in mechanism have lately been so great that now the "King of Instruments" can not only march along in dignified thundering tones, but can frisk and gambol like a kitten."

Is this the end to which the organ of Bach has been "improved"? But we must not take such ebullitions too seriously.

It matters not with what skill and resources an organ may be constructed, the instrument to a marked degree is dependent for its full effect upon the fulfilment of certain architectural conditions; viz., that it be allotted ample space and proper surroundings for its construction and the free egress of its sound, and that the acoustic conditions of the edifice be favorable.

It cannot be too strongly emphasized that the position of the French organ in the west end of the nave, the size of many of the edifices and the character of their interior finish and furnishings do much to enhance the effectiveness of the instrument, and to impart to it those qualities of sonority and power with which we are wont to associate it.

The advantage of an unobstructed position for the organ can scarcely be overestimated, when compared with the restricted and enclosed space too often allotted to it in this country, especially in Episcopal churches.[1] In France, not only is ample space usually assured for the construction of the organ, but the western wall of the nave, with the ceiling above, serves as an admirable sounding-board, projecting the tone without impediment throughout the length of the church. Especially do the subsidiary manuals gain immeasurably in effectiveness. Instead of being crowded behind the Great-organ or placed directly under the roof of the organ chamber and behind the arch, they may often be placed vertically

[1] "The majority of architects and ecclesiologists are now, it is to be feared, in favor of placing this noble instrument in the most secluded nook that the building affords, being unwilling that any portion of the architecture of the church should be hidden by the organ-case. . . . The modern organ-chamber is frequently too small for the organ it is intended to contain, and is often so low that the sound is unable to escape above the case, and the finest organ is robbed of half its grandeur. . . ." Arthur George Hill: *The Organ-cases and Organs of the Middle Ages and Renaissance.*

above the Great-organ, or at its side, since the entire width of the nave is probably available.[1]

Even the location of the organ in the west end of the nave is not ideal, in the opinion of experts. The Abbé Lamazou remarks:

"It is generally maintained that despite the immense advantage of such a location for the organ over that in the side wall of the choir or chancel, the ideal position from an acoustic point of view, is in the center of the edifice, for example at the crossing of the transepts. Under the latter conditions there is less danger of echo and excessive resonance, since the sound of the organ is projected in every direction simultaneously, without diminution of its intensity." [2]

Some English cathedrals demonstrate the advantages of the latter location, where the organ is placed on the choir screen.

[1] The organ of Saint-Sulpice, Paris, is constructed in seven distinct stories, or *étages*, one above the other. On the floor level is placed the coupler- and other action; on the second and third, the chests and pipes of the *Grand-chœur* and *Grand-orgue* respectively; on the fourth and fifth, those of the *Positif* and *Solo;* and on the sixth and seventh, those of the *Récit.* The total width of the case is twelve metres, and its height from the floor to the top of its cornice over thirteen. The swell-box of the *Récit* is placed over the latter, entirely free from obstruction.

This fine instrument is placed at a disadvantage, however, by the convex form of the case; and the free emission of the tone is undoubtedly obstructed by the statues placed between the columns. When Cavaillé-Coll reconstructed the organ, in 1862, he was unable to obtain permission to alter this most important feature of any organ.

[2] *Étude sur l'Orgue monumentale de Saint-Sulpice et la Facture moderne.*

See also Nave of Chartres Cathedral, opp. p. 60.

CHAPTER IV

The Manuals

Whether the organ possess three or four manuals, the stops of the various divisions exhibit a certain similarity of nomenclature; although we may rightly assume that the builder is careful to vary their quality. Broadly speaking, all the manuals are equipped with foundation stops and reeds of 16-, 8- and 4-ft. pitch, together with a plentiful supply of mixture or mutation ranks. Undeniably stops designed exclusively for solo use find less opportunity for inclusion in such a scheme as this; but the French organ is first of all an *ensemble* organ, in contrast to the increasingly predominant character imparted to many of our own instruments by solo stops.

The first thought of the French builder is to make each manual in itself a perfect ensemble, including therein all of its stops; naturally with the exception of the occasional *vox humana* or *voix célestes*. To the combination of any or all of these units, as the case may be, he gives the same consideration; and he founds the whole upon an independent *Pédale* of sonorous power.

The general tonal scheme of the best French organs aims at the attainment of sonority and perfection of ensemble above all else. The capacity of each stop to blend with each and all other stops is preferred to the production of marked individuality and brilliance in separate registers. The foundation stops of all manuals are conservatively voiced, as regards quality and quantity of sound; for power, dependence is placed largely

upon the reeds, while both the latter and the mutation ranks, in simple as well as in compound stops, impart the desired brilliance to the whole.[1]

The foundation stops of the *Grand-orgue* (Great) are notable for their sonority and smoothness, and for amplitude of scale, rather than for excessive strength or loudness of tone; and mutation ranks are plentifully provided. The stops of the *Positif* (Choir) are voiced in a more telling quality than those of the *Grand-orgue*, although not necessarily louder; the *Positif* thus standing more in the light of a second or auxiliary *Grand-orgue* than as the manual of soft or solo stops which many American builders are wont to make it. The *Récit* (Swell) is a manual of ample resource and great power, when the box is open; affecting materially the whole ensemble of the organ.

In these respects the French organ fulfils the requirements of an ideal instrument for the performance of Bach's works, as they are set forth by Messrs. Widor and Schweitzer, in the preface to their edition of his organ compositions:

"The subsidiary manuals must not be too weak, as contrasted with the Great-manual; more especially, all varieties

[1] In France the proportion of metal pipes to those of wood is far greater than in this country. The German organist, Adolph Hesse, visiting Paris, and playing upon the organ of Saint-Sulpice, noted that the pipes of all but three of the one hundred speaking stops of the organ were of metal.

M. Charles Mutin has kindly sent me details of the organ in the Église du Sacré-Cœur, Montmartre, Paris, which is of comparatively recent construction (see Appendix, Specification III). Only four stops are of wood throughout: the *flûtes* and *soubasses* of 32′ and 16′ in the *Pédale*. In other cases wood is occasionally employed for the lower two octaves of 16′ *bourdons*, and for the lower octave only of 8′ open and stopped flutes. With the exception of the two *Pédale* stops of 16′ already mentioned, no pipe of 4′ or less in speaking length in the entire organ is made of wood.

of registers should be represented on them — the foundation stops of 8-, 4- and 2-ft. tone, besides mixtures and reeds; some of these last, if possible, of 4-ft. tone.

"There must be no wide gulf between any pair of manuals; otherwise the contrast obtained by alternation of manuals is too sharp. On the other hand, the difference between them must be clearly marked, else the effect of alternation will lose its charm.

"Each manual embodies, in its tone, an individuality. They should be differentiated from one another not only (and not so greatly) by strength, but rather by timbre. The Great-manual should possess a full, broad, mellow tone. The Choir should have something of the clear, breezy, keen sound of the old *Rückpositive*, which projected out into the church behind the organ-bench. The intonation of the Swell should be marked by a certain richness and intensity. When three such manuals are coupled together, the wealth of tone resulting from the combination of their individual effects is astounding. . . ."

"The Swell-organ should be abundantly furnished with stops of all classes. The effect obtained by opening and closing the shutters should be such as to make itself felt when the Swell-manual is coupled to the Great and the hands are playing on the latter. In its relation to the instrument as a whole, the Swell-organ should impart flexibility and a capacity for modulating the tone-effects."[1]

In all large organs chorus reeds are provided at the pitch of 16-, 8- and 4-ft.; not only upon the *Grand-orgue*, and possibly upon the *Récit* as in this country, but upon the *Positif* and in the *Pédale* as well. As the system known as "augmentation" is not in vogue in France (except as hereinafter noted), the reeds of 16′ and 4′ are voiced and regulated with regard to their relationship to the 8-ft. stop of the same class. There is no question that far more clearness of tone in the ensemble is thereby

[1] *The Organ Works of J. S. Bach*, edited by Ch.-M. Widor and Albert Schweitzer.

attained than is possible under the system adopted in some contemporaneous American organs of importance, of extending a single set of pipes so as to provide three stops which should be independent and mutually regulated in quality and power.[1] Thus in the disposition of their reeds, as in their foundation stops, the French declare their adherence to the principle that an organ should be conceived as an instrument primarily of eight-foot tone upon the manuals, with the provision of octave and sub-octave registers (in both flue and reed-work) and mutation ranks, so voiced with regard to quality, intensity and pitch as to reinforce artificially (*and in proper proportion*) **all** the natural overtones, within judicious limits, which are but feebly produced by the stops of 8-ft. pitch. With this principle the theory of the "unit organ" is frankly at variance; while it is evident that were the systems of borrowing and augmentation to be adopted upon the manuals, it would be impossible longer to insure to the whole ensemble that correctness of proportion which is guaranteed in the French instrument, where every stop is independent in quality and power of every other stop.

With many American builders the tendency in recent years has been materially to reduce the number of mutation ranks provided in separate stops, if not to discard them entirely. Mixtures have thus fallen into disrepute, and "keen" voicing of string-toned registers has been substituted and encouraged in the attempt

[1] If we add to this the procedure not infrequently exhibited in what are considered to be some of our most important organs, *i.e.*, of borrowing bodily these same stops for what should be the independent reeds of another manual — or still worse, borrowing them a second time to serve in the Pedale, — we may well wonder whether the introduction of electric action, which has facilitated the adoption of this system, is not actually tending toward the production of instruments inferior in general ensemble qualities to those constructed thirty years ago. But more of this later.

SAINT-EUSTACHE, PARIS

THE ORGAN

to render unnecessary any artificial reinforcement of the natural overtones.

We must admit that this movement was hastened and abetted, and no doubt justified to a certain extent by some of the examples of mixture voicing in America which were not infrequently encountered at one time. Shrill, badly disposed, disproportionately loud and sparsely represented mutation ranks could hardly fail to excite the ire of every sensitive musician forced to employ them or doomed to listen to them. But instead of condemning unreservedly the whole system, because of faults which were no less widespread in France as well, the French set themselves to correct its abuses, with characteristic patience and conscientiousness.

As a result, we are struck by the large number of mutation ranks, in both simple stops and mixtures, with which French organs are provided.[1] But so carefully are these stops voiced, with such good judgment and accuracy are the various ranks disposed, that frequently they may be used even with moderately soft combinations, and are so employed. Their total effect upon the ensemble of the instrument, while endowing it with great brilliance, does not begin to assert their presence to the same degree as would a single "shrieking" mixture of the well-known and justly execrated type, which (mentally at least) we may relegate to the black-walnut period of organ construction.

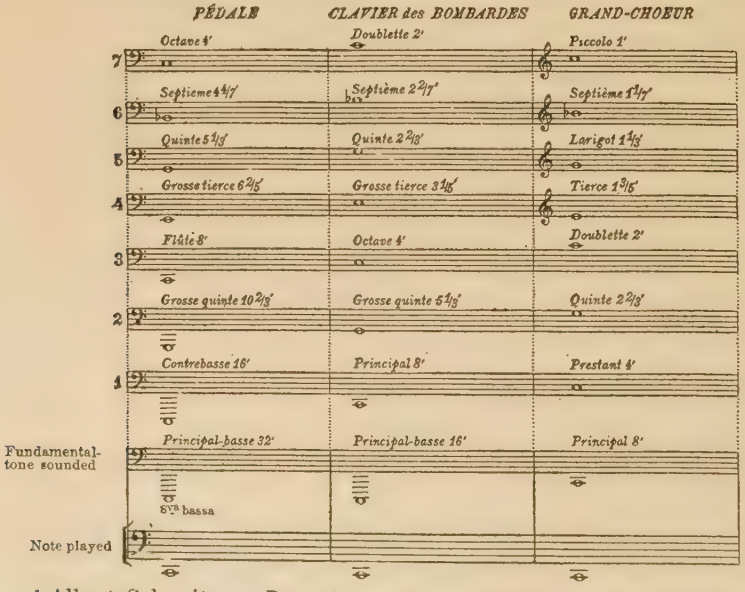
An eminent authority longs for the time when "the proper proportion of mixture ranks will be accorded to each manual; when it will be established as dogma that the more fine mixture ranks an organ possesses, the truer, richer, and more beautiful will the instrument be; that it can never have too many, and especially must the

[1] The organ of Saint-Sulpice, Paris, contains in the *Récit* (Swell) alone no less than twenty ranks of flue work higher than 8-ft. pitch.

Swell manual be plentifully provided with them." In addition, he advises that mutation ranks be placed in the *Pédale.*[1]

Whether American organists will agree with the fervency of this declaration or not, it must be admitted that its justification lies in the success attending its adoption in French instruments. Were the voicing of the mutation ranks not carried out with the greatest care and precision, it is conceivable that the effect would be quite intolerable; but the representation of **all** upper partial tones (up to a certain point), thus providing for the bridging over of possible gaps, together with the neutral quality and moderate power imparted to them, insures their artistic effect.

In this connection it is interesting to note that the organ of the Cathedral of Notre-Dame, Paris, among others, contains in simple mutation stops a complete



[1] Albert Schweitzer: *Deutsche und Französische Orgelbaukunst und Orgelkunst.*

representation of the first seven harmonics of the 32′, 16′ and 8′ series respectively, as on page 26.

Few questions connected with organ construction have succeeded in provoking and protracting so much controversy as this subject of Mixtures. Those who favor their total abolition are wont to quote the statement of Helmholtz that "They can be used only to accompany congregational singing. When employed alone they produce insupportable noise and horrible confusion." [1] We must realize, however, that Helmholtz' judgment was unquestionably influenced to a considerable degree by the type and predominance of the mixtures common to German organs of his time. It would also seem but fair to quote from a previous chapter of the same work:

"These compound stops were a monster in the path of the old musical theory, which was acquainted only with the prime tones of compounds; but the practice of organ-builders and organists necessitated their retention, and when they are suitably arranged and properly applied they form a very effective musical apparatus. The nature of the case at the same time fully justifies their use. The musician is bound to regard the tones of all musical instruments as compounded in the same way as the compound stops of the organ."

Berlioz is also frequently quoted by antagonists of mutation stops: [2]

"The opinions of organ-builders and organists agree as to the excellence of the effect produced by this multiple resonance. Actually this singular system would always tend to impart to the organ the harmonic resonance which it has vainly been sought to avoid in grand pianofortes." [3]

[1] *Die Lehre von den Tonempfindungen*, tr. Ellis, London.

[2] See Grove's *Dictionary of Music and Musicians; Organ*, by Sir Walter Parratt. (Vol. III, pp. 562–3. Rev. ed., London, 1910.)

[3] Berlioz: *Traité d'Instrumentation.*

But again, Berlioz published this great treatise in 1843, and must have been influenced by the instruments of his time. The copious additions made to Berlioz' text by Richard Strauss in his revision of the work, directly contradict the author's statements with regard to various capacities of the organ, in many instances, owing to the great advance made in many details of organ construction since Berlioz' time.[1]

Gevaert thus treats of the subject of mixtures in his *Traité d'Instrumentation*, and it may be remarked that Gevaert's well-known position of authority upon all forms of music, orchestral as well as ecclesiastical, and his recognized erudition as a musical historian, lend special weight to his convictions: —

"This class of stops, which introduce horrible dissonances into the most consonant chord, has been a cause of offence to musicians lacking familiarity with the organ; as Berlioz, for example. Others, while accepting the principle of mutation stops, preferred to consider them as a strange property of the organ, a sort of mysterious privilege reserved for that essentially ecclesiastical instrument. As a matter of fact, they are perfectly natural and logical. Modern science has proven by experiment that most agencies of sound, from strings and pipes to the human larynx, produce sounds which are accompanied by harmonics. Covered by the fundamental tone, which is the only one that art takes into consideration, these accessory sounds are not clearly perceptible; only an attentive and practiced ear is able to discern them. But we are none the less affected by them, and according to Helmholtz they are one of the principal elements of sound. . . . When employed in judicious proportion, they impart to the tone of the organ the sonorous brilliance, the rich polyphony, the indefinable amplitude of sound which characterize the instrument. Without mixtures there can be no real 'full organ.'"

[1] See also Ch.-M. Widor: *Technique de l'Orchestre Moderne* (pp. 176 ff.).

Finally, the subject of mixtures has been impartially and discerningly treated by Mr. Wedgwood in his valuable *Dictionary of Organ Stops*. Although by no means enthusiastic in their favor, the following is worthy of quotation: —

"One of the greatest mistakes, in English organ building, has been the whittling down of the Mixture to a mere 'three-rank shrieking apparatus.' Had the liberal composition been preserved concurrently with a decided reduction in power, the result would have been far less disagreeable. As matters stand, the very bareness of the routine III-rank stop serves but to emphasize its assertiveness."

"It is true that the system of equal temperament demands some subdual of the power of Mixtures, but, regarded in the light of artificial harmonics, there is no argument which can be levelled against Mixtures which cannot likewise be brought to bear against natural harmonics. But it is not Nature which is in the wrong, it is our arbitrary system of dividing the octave into twelve notes. One American pamphleteer sets out with great display to vanquish the Mixture by tabulating the gruesome discords produced when a given chord is sounded. . . . But the whole argument is a specious *reductio ad absurdum*. Precisely the same discordant sounds . . . are generated by the harmonics of the chord themselves. But such harmonics, and the artificial harmonics of good Mixtures, are altogether subservient to the prevailing notes of the chord. And as regards the equal temperament difficulty, there is the same clashing of harmonics whenever a minor Triad is sounded. On this score, no objection can validly be urged against duly subordinated Mixture tones which does not in some measure hit at the whole basis of our musical system. Similarly, it is precisely in so far as compound stops are intended to corroborate natural harmonics that they are able to withstand the theoretical academic charges of sedulously giving rise to consecutive fifths."

The relative position of the manuals would seem to be a matter of minor importance; but it actually influences the whole tonal scheme of the French instrument.

The *Grand-orgue*, or Great, is invariably placed at the bottom; next above, the *Positif* or Choir; and the *Récit* or Swell at the top. If there be a fourth manual it was formerly called the *Bombarde*, and placed between the *Grand-orgue* and the *Positif*.[1] In modern construction the fourth manual is usually named *Solo*, and is placed at the top. It may be remarked that the *Écho* division found in some French organs is not ordinarily a section of the organ placed at a distance from the main instrument, as is so frequently the case with us; but is generally a division containing soft stops.

The organs of Saint-Sulpice and Notre-Dame in Paris each have five manuals, the fifth keyboard being placed **below** the *Grand-orgue* and called *Grand-chœur*. This lowest manual is actually a division of the *Grand-orgue*, however, and contains almost exclusively the reeds and mixtures, leaving the foundation stops to be played from the *Grand-orgue*. It is often used as a coupling manual, as will be explained later (see footnote, p. 36).

[1] Among the alterations already mentioned as having been made to the organ of Saint-Sulpice in 1903, was the change of location of the *Bombarde;* it was placed at the top, above the *Récit*, and its name changed to *Solo*. By a redistribution of the existing stops this manual now partakes more nearly of the nature implied by its present designation than did the former *Bombarde*.

NOTRE-DAME, PARIS

THE NAVE FROM THE ALTAR

CHAPTER V

The Pédale

The *Pédale* is the name given to the division of the organ containing the pipes played only from the pedal keyboard, and corresponds to our "pedal-organ." The keyboard itself is known as the *Pédalier*.

No department of the instrument is considered by French builders to be more important, or receives more scrupulous care in its composition and voicing. As with the manuals, the most careful attention is given to the provision of independent stops of varied pitch and quality in this section of the tonal scheme, and of ample and well-proportioned sonority. "Not excessively strong, but with stops of sonorous, positive and flexible tone, making itself felt even against the foundation stops and mixtures of all manuals coupled together; such a *Pédale* is never too weak and never too strong;[1] particularly will it never cover and blur the inner voices on the manuals." [2] Thus may the ideal *Pédale* of the French builder be described.

Like each of the manuals, the *Pédale* is conceived as

[1] See Ex. 1.

[2] A. Schweitzer, *Deutsche und Französische Orgelbaukunst und Orgelkunst*. The author further advocates strongly the introduction of mixtures in the *Pédale;* a recommendation already adopted in single rank stops in at least one prominent organ recently installed. (See Appendix; Specification III.) Some years ago this practice was quite common in large organs in America; the organs of the Cincinnati Music Hall, of the Cathedral of the Holy Cross in Boston, and of the Auditorium in Chicago, all contain mutation ranks in the Pedale. (See Pedale specifications on p. 83.) Of late years, however, I believe the practice has been abandoned.

an independent division of stops, based upon a proper representation of tone of fundamental pitch (16′ in this case), in each of the several primary tone-qualities; supplemented by other stops of higher pitch, reinforcing certain of the natural harmonics of the fundamental tone; each of the latter stops being voiced as to intensity and quality with exact regard to this relationship with its fundamental (in accordance with the natural laws of tone-color), and to the *Pédale* as a whole. The entire division is supported upon an equally judicious proportion of 32′ tone, in the larger instruments. Thus is maintained the same principle of the provision of stops sounding the octave, super-octave and sub-octave, in proper proportion to the fundamental tone, that has already been noted in connection with the manuals, where 8′ pitch is the standard, or fundamental.[1]

Reference to the specifications in the Appendix will show the customary composition of the *Pédale* in organs of various sizes. It will be observed that even in comparatively small instruments the pitches of 16′, 8′ and 4′ are almost always given liberal representation in flue stops, as well as provision in the reeds. The effect of this procedure is to impart unusual distinctness, clearness and sonority to the *Pédale*, making it of real value as an independent section of the organ. For a *Pédale* thus constituted presents the aspect of a separate division, in all respects as independent of each manual division as the several manuals are of each other. It may be added that remarkable promptness and precision of speech are obtained not only through the perfection of the action, but also because of the care bestowed upon considerations of wind supply and voicing.

[1] The French are wont to designate an organ as a "16-ft. organ" or a "32-ft. organ" (*orgue de 32 pieds*) in accordance with its possession of stops of the pitch mentioned.

While any or all of the manuals may be coupled to the *Pédale* (at least in recent years), the pedal couplers are regarded as accessories rather than as essentials, up to the full power of the instrument.

In addition to the advantages derived from the representation of each of several pitches, the fact that each stop is complete throughout its compass (none being borrowed or even derived by augmentation except in recent years), and thus independent of every other stop, insures its being voiced as to quality and intensity solely in accordance with its individual character and needs, and its relation to the *Pédale* as a whole.

No stop of unusual character will be noted in these specifications, but we will be struck by the almost universal provision of a foundation stop and a reed of 4-ft. pitch. In the case of the former, there is an analogy to the Fifteenth of the manuals; and the use of the 4-ft. stop in addition to those of 16′ and 8′ is directed in innumerable French compositions.[1]

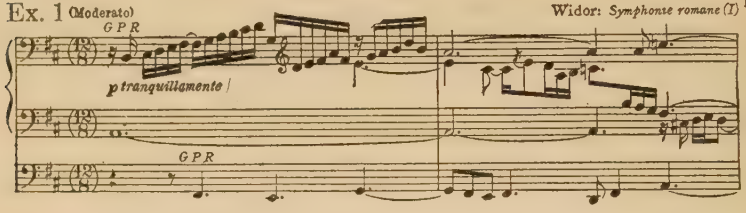
Unquestionably a 4-ft. stop imparts an elasticity and clearness to *Pédale* combinations which could not be attained with 16′ and 8′ registers alone, or by coupling the manuals to the *Pédale*. Naturally the 4-ft. reed will be used chiefly in the more powerful combinations, but its effect will be relatively the same.

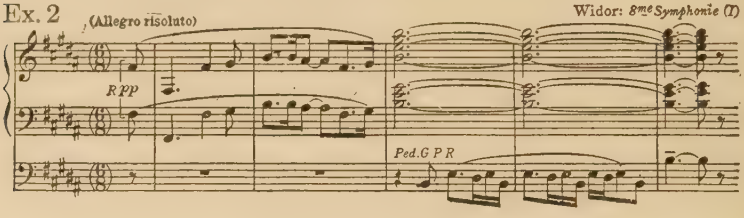
In the larger organs, both flue and reed stops of 32′ and even of 2-ft. pitch are added; while simple mutation stops, each representing one of the higher harmonics of the 16′ series, have actually been included as already noted.

[1] It is of interest to note that among the rare instances in Bach's works in which the registration was prescribed by the composer, even in part, three of the *Choralvorspiele* require in the Pedale a 4-ft. stop alone. In two cases a flue stop is obviously demanded, in the third a reed may have been intended. Such stops were a feature of organs which Bach played or with which he was familiar; among them those at Arnstadt, Weimar and Leipzig (Universitätskirche).

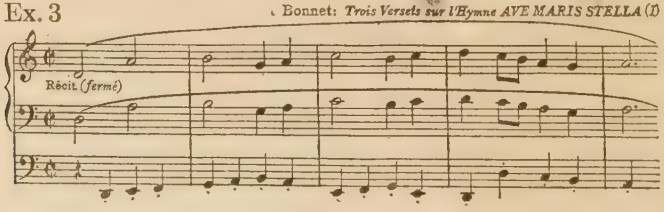
Only with a *Pédale* thus constituted is it possible to perform such passages as the following, conforming to the indications both of pitch **and of intensity**. On the French organ they are entirely practicable, else they would not have been so written:

G. P. Fonds 8′, 4′, 2′. R. Fonds et Mixtures 8′, 4′, 2′. Péd. Fonds 16′, 8′, 4′.

Ex. 1 (Moderato) Widor: *Symphonie romane (I)* [1]

G. Fonds 16′, 8′, 4′. P. Fonds 8′, 4′. R. Fonds et Anches 16′, 8′, 4′. Péd. Basses de 32′, 16′, 8′, 4′.

Ex. 2 (Allegro risoluto) Widor: *8me Symphonie (I)* [2]

G. P. Fonds, 16′, 8′. R. Fonds et Anches 16′, 8′, 4′, 2′. Péd. Fonds 16′, 8′, 4′. Tirasse G.-O.

Ex. 3 Bonnet: *Trois Versets sur l'Hymne AVE MARIS STELLA (I)*



[1] J. Hamelle (1900).
[2] J. Hamelle (1900).
[3] E. Leduc, P. Bertrand et Cie. (1909).

CHAPTER VI

Mechanical Accessories

The mechanical accessories of French organs are almost invariably the following: *accouplements*, or manual-couplers; *tirasses*,[1] or pedal couplers; *appels*, or ventils; *pédales d'expression*, or swell-pedals; tremulants, and occasionally *registres de combinaison*, or combination registers.

The action of both keys and registers is almost universally tracker-pneumatic in the larger instruments, and either tracker or tracker-pneumatic, or a combination of both, in the smaller ones.[2] Electro-pneumatic action is used by some builders in general construction,[3] and by others for specific purposes, such as the connection of

[1] From the verb *tirer*, meaning to "draw" or "pull"; the first pedal keys having been attached by cords to the manual keys above, pulling the latter down.

[2] In considering the mechanical construction and details of French organs, I shall hereafter refer to those built or rebuilt by Cavaillé-Coll and his successor, M. Charles Mutin. In selecting these instruments as typical, I would by no means disparage or fail to recognize the excellence of the many instruments constructed by other builders, or seem to ignore their claim to consideration. But the differences between all these instruments, as to details of specification and manipulation, are not radical; and it is the organs of Cavaillé-Coll which have more often served as the inspiration of the composers whose works we are considering in this volume. No work on French organs should fail to acknowledge the artistic achievements of such organ-builders as Merklin, Puget, Debierre, Abbey; but the object of this study requires that I should speak of the French organ as a type, rather than attempt to consider separately the many excellent examples provided by all builders.

[3] See Albert Peschard: *Les Premières Applications de l'Électricité aux Grandes Orgues.*

divisions of the organ necessarily placed at a considerable distance from the main instrument; but it is fair to say that its adoption up to the present time has been far from general. The tubular-pneumatic action, at one time so favorably looked upon in Germany, has made little appreciable headway in France.

Much attention is devoted to the regulation and variety of wind-pressure, rather than to its production in excessive strength. So far as the latter is concerned, seven inches of wind is about the maximum allotted by Cavaillé-Coll to the more powerful stops, except in individual cases. The motto "plenty of wind, but at moderate pressure" may be said to govern the whole system of wind supply.

The wind-chests, however, are divided; not alone, as in our country, to prevent the robbing of wind, but in order to feed the pipes of each of three divisions of the scale with a different quantity and pressure of wind, in accordance with the needs of each section. Thus the principle of orchestral wind instruments is respected: for the lower register, a plentiful supply of wind at comparatively low pressure; for the medium, a more moderate quantity at somewhat higher pressure; for the upper register, a comparatively small amount of wind, but at still higher pressure. In this manner each stop is made to speak throughout its entire compass with remarkable promptness and with uniformity and clearness of timbre.

The operation of the couplers, both manual and pedale, is the same as in our own organs; excepting that the action being direct, the keys of the manual coupled are actually drawn down. Until recently, in the largest organs, each of the upper three manuals could be coupled only to the lower, or *Grand-orgue*,[1] and only the *Grand-*

[1] In the five-manual organs of Saint-Sulpice and Notre-Dame, Paris, this function is assigned to the lowest manual, the *Grand-chœur*. (See p. 30.)

SAINT-GERMAIN-L'AUXERROIS, PARIS

THE NAVE

orgue to the *Pédale;* any manual being at the time coupled to the *Grand-orgue* was thereby coupled also to the *Pédale.* But no provision was made for coupling anyone of the upper manuals to any other of them, or to the *Pédale,* except through the *Grand-orgue* as above. The latter manual was and still is supplied with a ventil controlling the wind-supply to the pallets, similar to the "Great to Pneumatics" formerly common to our own tracker-pneumatic organs. This keyboard thereby executes the office of a "coupling manual," its own stops sounding or remaining silent at the discretion of the performer.

In more recent years independent means have been provided for coupling at least *Récit* to *Positif,* and each manual to the *Pédale,* without coupling through the lowest keyboard.

Octave couplers, drawing down the octave above, are little used in France; on the contrary, sub-octave couplers to the *Grand-orgue* from each of the other manuals, as well as for the *G.-O.* upon itself, have long been in general use. This will explain the common custom of French composers in writing full chords in the upper register of the principal manual, when the maximum of power is desired.[1]

Due allowance for these methods must be made in performing these compositions upon American organs, when the latter are provided with octave couplers or contain shrill mixtures. In this connection it may be pointed out that the custom of some builders to include these couplers upon the Full Organ or *Sforzando* pedal, is most unfortunate; since only by circuitous means can

[1] Numerous examples of this procedure are found in the works of Widor and Guilmant; among the former, at the beginning of the *6me Symphonie.* (See also Ex. 4.)

they be eliminated from what should be "full organ," and a properly proportioned sonority obtained. It is needless to add that upon French organs the upper register of all mixture- and high-pitched stops is voiced with regard to the procedure noted.

No French organs, except some of those most recently built, possess combination movements, as we understand them, whether operated by pistons or pedals. In their place the French make use of the "ventil system," [1] which was formerly used to some extent in the pedal organ of American instruments.

While the position of the draw-stop ordinarily determines the speech or silence of a single register or set of pipes, under the ventil system the wind supply to the stop-action of the whole or of a portion of a wind-chest is controlled; the wind being thus cut off prevents the stops affected from speaking, even though the respective register-knobs may be drawn at the keyboard. A striking difference between this system and our own combination action is that when once established by the builder, the stops affected by each ventil cannot be changed without rearrangement of the pipes on the chest. In actual practice, however, it is customary always to group the stops affected in the same way, on all organs; the ventils usually being applied chiefly to the reeds and mixtures of each manual, excepting in the case of the foundation stops of the first manual, as already noted. These ventils are called *appels;* as *appel du Grand-orgue* = Great to Pneumatics; *appel des anches* = Wind to Reeds.

[1] "The ventil system is not very popular outside France, as it incurs a considerable amount of hand-registration. This, in itself, has achieved in the past for the French organists much greater individuality and distinction as colorists, the English players having become too much tied to the composition pedals and pistons for their combinations." (A. Eaglefield Hull: *Organ Playing.*)

In French organs a separate ventil pedal is provided for each manual and for the *Pédale*, hence the frequent directions *anches du Récit; anches du Positif; anches du Grand-orgue; anches du Pédale.*

These ventils, as well as all the couplers, are almost invariably operated by pedals, rather than by manual draw-stops; while manual pistons are practically unknown.[1]

The *registres de combinaison*, with the tremulants, are the only mechanical movements ordinarily operated by draw-stops. These *registres de combinaison*, or combination registers, are sometimes provided for each manual and for the *Pédale*. By their use it is possible to effect the following action:

The draw-stops desired at the beginning of the composition, or for first use on each manual, are drawn, and are brought into action by subsequently drawing the respective *registre de combinaison*. These stops are thereby locked on, and their register-knobs may be pushed in without silencing them, while the second combination desired for each manual may be drawn and held in readiness. When the moment arrives at which the new combination is desired, the respective *registre de combinaison* is again operated, and the old combination vanishes, while the new one which is actually drawn at the stop-knobs comes into effect. A third combination may now

[1] Having noted that in Germany preference is given to push-buttons placed between the manuals, while in France pedal movements are the rule, Mr. Schweitzer observes:

"In principle we must acknowledge that the French are right. We often have a foot free, almost never a hand. And experience confirms the principle. On German organs I always hear the hesitation, the rhythmical irregularity caused by the fact that the performer is unable to operate the piston precisely at the required instant."

He adds the testimony of Guilmant and Widor to their preference for pedals, and their disapproval of manual pistons. (*Deutsche und Französische Orgelbaukunst.*)

similarly be arranged, and when desired may be exchanged for the second by the same process, and so on. While the entire absence of combination movements, *per se*, makes it necessary that all combinations shall originally be arranged by drawing the stops, the *registres de combinaison* make it possible for new combinations to be arranged at any convenient point, perhaps far in advance of the time of their actual employment.[1]

In the older French organs the pipes of the *Récit* alone were placed in a swell-box, and the shutters were frequently operated by the ratchet pedal long since discarded by American builders; this pedal was placed far at the side of the *Pédalier*. In recent years the balanced pedal has taken the place of this cumbersome contrivance in France, although the effectiveness of the latter in abrupt changes from open to closed box, or *vice versa*, cannot be denied. Likewise in recent years the *Positif* has often been provided with a swell-box of its own; but undoubtedly accompanied by a corresponding increase in scale of the pipes, consequently preserving their proper proportion to the sonority of the whole instrument.[2] It is not customary, however, to enclose any portion of the *Grand-orgue*, nor was it usual to enclose the *Bombarde* or *Solo* manual in the older organs; but in more recent

[1] I remember a device which was a feature of an organ constructed in Boston some twenty years ago, designed to operate upon the whole organ in the same manner as the *registres de combinaison* upon a single manual. The subsequent introduction of combinations adjustable at the keyboard has probably rendered such a device superfluous in later instruments.

[2] Generally speaking, sufficient attention has not been paid to this point in American organs in recent years; perhaps designedly. At all events, our Choir-organs when enclosed in a swell-box have lost immeasurably in sonority and power, whatever they may have gained by the addition of solo stops and in variety of tone-color. In many cases they are no longer of substantial or even appreciable assistance to the Great in the provision of foundation tone.

years the latter has frequently been placed in a separate swell-box also.

Tremulants are supplied for one or more of the manuals, as in other countries. They find favor according to the individual taste of the performer or composer.

Chimes,[1] or any of the percussive effects now being introduced into some American organs of radical tendency, are not ordinarily found in French organs.

It is interesting to note that a century or more ago, organ stops much in favor among certain performers were known as the *jeu de rossignol*, or Nightingale; the *jeu de coucou*, or Cuckoo, among others.[2] With the advent of a serious school of composition and performance these toys were outgrown, with a single exception: the *tonnerre*. This interesting accessory was operated by a pedal, and effected the speech of a number of the lowest notes of the pedal organ, in whatever stops were drawn at the time. It served a useful purpose in the musical portrayal of a thunderstorm, which still figures as an inevitable feature of the daily organ recital dear to the hearts of foreign tourists in Switzerland. Some years ago, I remember noting that even the organ of Saint-Sulpice had not escaped the provision of this stupid plaything; but a conspicuous hole in the toe-board where the pedal operating it once had been, mutely testified to the esteem in which the contrivance was held by the incumbent of that particular organ post.

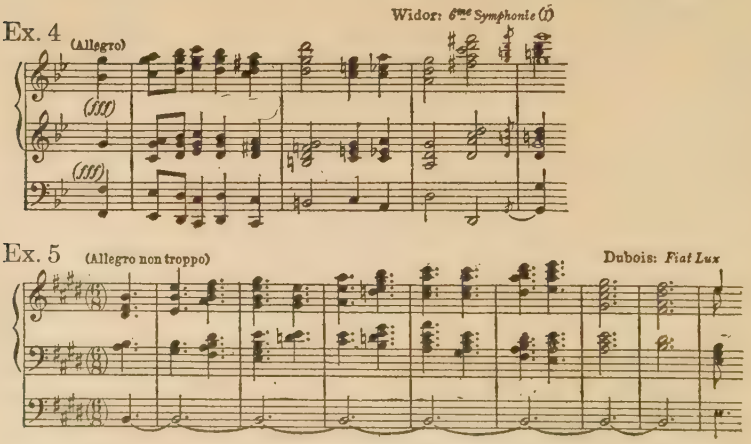
No attempt has been made in France to reduce the size of the console, and indeed every effort is directed toward endowing it with all possible importance, as is

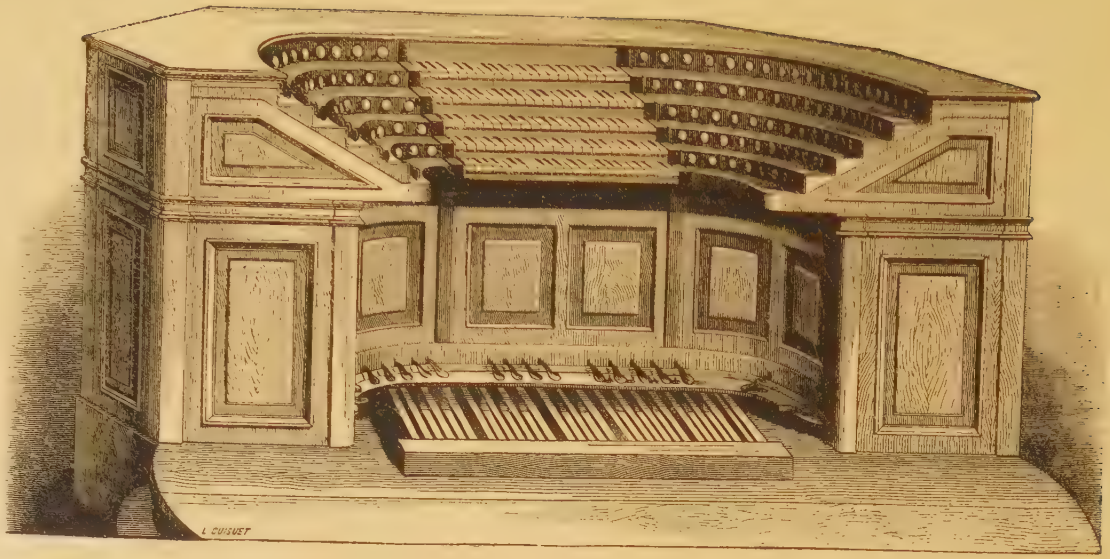
[1] The French word for a chime or peal of bells is *carillon*. A stop of this name is common in their organs, but it is a Mixture; designed to add the same brilliancy to the foundation stops that is imparted to a bell by the prominence of its overtones.

[2] See *Notes Historiques et Critiques sur l'Orgue*, by Eugène de Bricqueville.

fitting to the dignity and power of the instrument whose speech it controls. In the larger instruments the console is usually detached from the organ, reversed, and placed a few feet from it; never at any considerable distance. The compass of the manuals in the older instruments is from *C* to g^3,[1] but it is being extended upwards to c^4 in all recent construction. The *Pédale* formerly extended from *C* to f^1, but similarly is now carried up to g^1. The pedal keyboard is usually of the old "straight" type, the line of the front of the sharps being curved, however, so that the sharp keys at the ends of the *pédalier* are longer than those in the center. The keys are somewhat narrower than ours, and are highly polished. The concave and radiating type of pedal keyboard has found little or no favor in France.

The stops are operated by register knobs of rather small size, placed on each side of the keyboards; never above them, in large organs. The cheek-blocks are often

[1] Such passages as the following would unquestionably have been written differently, had it not been for this restriction of compass:

Toward the end of the *Symphonie romane*, Widor has provided an alternative rendering for use where possible.

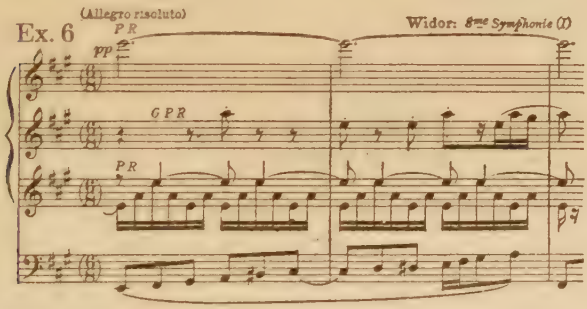
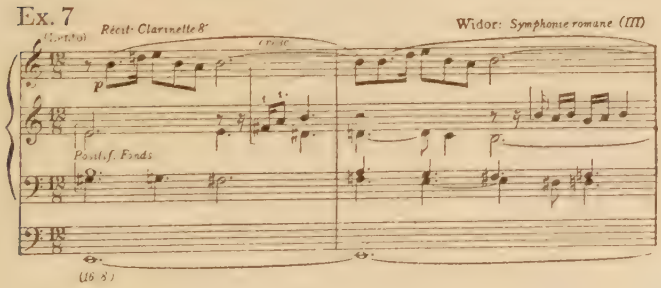


CONSOLE OF THE ORGAN

Cathedral of Notre-Dame, Paris

curved in a quarter-circle, and invariably terraced. The absence of pistons between the manuals makes it possible to place the latter closer to one another; and the keys, especially the sharps, are considerably shorter than on American organs. The overhang of each manual is thus reduced, and the passage from one keyboard to another is materially facilitated.

Bearing in mind also the order of the manuals from the lowest upward, the facility of execution of such passages as the following is apparent. On our own instruments they are either totally impossible, or difficult of performance, without rearrangement of the indicated choice of manuals:

Ex. 6

Ex. 7

CHAPTER VII

NOMENCLATURE AND CLASSIFICATION OF REGISTERS

In the designation of registers all French builders employ the French language almost exclusively. Stops of the same character usually bear the same name in the instruments of different manufacturers.[1] The lack of interest in the creation of new timbres may partly account for the latter condition, but the established custom is at once convenient and logical.[2]

Superfluous or redundant designations, such as our Double Open Diapason 16′, are avoided: *montre 16′* suffices. Qualifying adjectives, such as *traversière, harmonique*, describe special tonal quality or pipe construction, as with us; or *doux, douce*, as a measure of intensity. A few purely fanciful names, such as *cor de nuit* (from the

[1] Where reference is made in this work to organ stops as found on French organs, the stop-names will be italicized. Those of American organs will be printed in roman and capitalized.

[2] It is not so long since the general inclination of American builders seemed to be the employment of any language but their own in the designation of organ stops; although it must be admitted that many familiar designations would seem unutterably silly if translated literally into English. But I have seen as many as nine foreign languages, dead and modern, represented in the specification of a single manual. Ignorance of these languages, possibly on the part of office clerks and program-printers, has led to the firm establishment of certain inaccuracies in our stop nomenclature: Gross Flute, Hohl Flute, Vox Celeste, Viola di Gamba, Viole d'amore, Dolce Cornet, Viole d'orchestra (*sic*) are some of those most familiar and not least incorrect. To the credit of some of our foremost builders let it be said that an effort to secure accuracy and to employ good taste is apparent in more recent years; although in many cases the English language is still but slightly represented.

German *Nachthorn*, but little resembling either it or the watchman's signal, whence it derives its name); *tuba mirabilis*, whose power is no longer astonishing; and the *voix céleste*, which hardly reminds one of the stringed instruments commonly associated with our heavenly abode,—unless in Fra Angelico paintings. But these exceptions are but incidental; in the main, French specifications exhibit striking simplicity of nomenclature, mostly confined to single and descriptive nouns.

In certain families of stops no attempt is made to assign a different name to stops of different pitch. ***Flûte*** is the general designation of all registers of open pipes in that family, whether of 32-, 16-, 8-, or 4-ft. pitch; a qualifying adjective being added when necessary. Likewise stopped flutes on the manuals are known as ***bourdons***, whether at 16-ft. or 8-ft. pitch.[1]

Strings and reeds are more often given different names according to their pitch or quality.

Under the general head of ***fonds***, or foundation stops, are grouped those registers which give the tone at the pitch played, or at one of its octaves, either above or below. ***Jeux de mutation***, or mutation stops, give a note **other** than the one played, or one of its octaves. Mutation stops are **simple**, if one tone is produced by a single key; **compound**, if more than one. Compound mutation stops are called ***mixtures***, although often bearing different names according to the identity of their component tones.

Strictly speaking, then, an 8-ft. reed is a foundation stop. Under the French system, however, *fonds* do not include reeds, which are collectively known as ***anches;***

[1] The latter practice is especially to be recommended, being far preferable to our misnomer "Stopped Diapason," which is not a Diapason and never has been; or to Gedackt, old German for *gedeckt*, which I have even known to be rendered as Gedacht, in a vain attempt at correction.

while in actual practice the family name *mixtures* includes all compound mutation stops; the simple mutation stops, being comparatively few in number, are either given individual names, or grouped as ***mutations***. They would ordinarily be considered as falling under the head of *mixtures*, however, being combined into the equivalent of compound stops at the discretion of the performer. The *fonds* correspond to our foundation flue-work, and do not include vibrating stops like the *voix céleste* and *unda maris*.

The general groups then, are these: ***fonds***, ***mixtures***, ***anches***.[1]

The stops commonly found on French organs are thus classified by M. Alexandre Cellier:[2]

MEDIUM SCALE

Montre or *Principal*	16′ and 8′ (32′ and 16′ in the *Pédale*)
Contrebasse	16′ (*Pédale* only)
Prestant	4′
Doublette	2′
Piccolo	1′
Diapason	8′
Violoncelle	8′
Kéraulophone	8′
Salicional	8′
Fugara	4′
Gemshorn	8′ and 4′

[1] As this classification seems to recommend itself in point of logic and convenience, I shall hereafter refer to flue-work of 32-, 16-, 8-, 4- and 2-ft. pitch as **Foundation**, in distinction to Mixtures and Reeds. Simple mutation stops, with the exception of the Twelfth and an occasional Quint, are rarely encountered in our later American organs.

[2] *L'Orgue Moderne*. I have rearranged and somewhat amplified the list of simple mutation stops.

NARROW SCALE

Gambe or *Viole de gambe*	8′
Voix céleste	8′
Dulciane	8′ and 4′
Unda maris	8′

WIDE SCALE

Flûte harmonique	8′	harmonic
Flûte octaviante	4′	
Octavin	2′	

Flûte traversière	8′
Flûte	4′
Flûte	16′ (Manuals and *Pédale*)
Flûte	32′ (*Pédale* only)
Flûte creuse	8′
Flûte à pavillon	8′

STOPPED REGISTERS OR BOURDONS

Bourdon	16′ and 8′ (Manuals)
Soubasse	32′ and 16′ (*Pédale*)
Flûte douce	4′

Bourdon à cheminée	8′
Cor de nuit	8′
Quintaton	16′ and 8′

SIMPLE MUTATION STOPS

(*Pédale*)

Grosse quinte	$10\frac{2}{3}'$
Grosse tierce	$6\frac{2}{5}'$
Quinte or *quinte flûte*	$5\frac{1}{3}'$
Septième	$4\frac{4}{7}'$

(Manuals)

Quinte flûte	$5\frac{1}{3}'$
Grosse tierce	$3\frac{1}{5}'$
Quinte	$2\frac{2}{3}'$
Nasard	$2\frac{2}{3}'$ (Stopped pipes)
Septième	$2\frac{2}{7}'$
Quarte de nasard	$2'$
Tierce	$1\frac{3}{5}'$
Larigot	$1\frac{1}{3}'$
Septième	$1\frac{1}{7}'$

COMPOUND MUTATION STOPS

(Mixtures)

Fourniture
Cymbale
Plein-jeu
Cornet
Carillon

REEDS

Bombarde	32′ and 16′ (*Pédale*)
Trompette	8′
Clairon	4′
Hautbois	8′
Basson	8′ (16′ in *Pédale*)
Cor anglais	8′
Clarinette	8′
Cromorne	8′
Voix humaine	8′

LA MADELEINE, PARIS

THE NAVE FROM ORGAN LOFT

CHAPTER VIII

PREDOMINANT CHARACTERISTICS OF REGISTRATION

I HAVE already pointed out that the tonal scheme of the best French organs aims above all else at perfection of ensemble. Stops designed primarily or even exclusively for solo use are not lacking, but in a majority of serious compositions, at least up to within a very few years, the display of solo qualities has usually been subordinated to considerations of ensemble. On the whole, in their interpretations of organ compositions, the French are accustomed to depend upon the nuances made possible by perfect touch control, rather than upon effects derived from frequent changes of intensity or color in registration. To them, the intrinsic musical value of the work is of more importance than the variety or novelty of the colors in which it is clothed. Through the perfection of touch, which, as elsewhere noted, is the *sine qua non* of the French organist, the finest nuances of rhythm, accent and phrasing are obtained; while the treatment from the standpoint of registration is more objective.

Probably this condition may be ascribed to several causes; among them the character of the part assigned to the organ in liturgical worship, the size of the edifices, and, not least of all, the limitation placed upon frequent changes of registration by the mechanical system of French organ construction; in which composition or combination movements — as we understand them, and are accustomed to them — usually are entirely lacking.

French organs contain few, if any stops of which virtual equivalents (often bearing the same names) are not found in American instruments; although frequently varying in timbre or in relative intensity, due partly to methods of construction. Registers which we are wont to use as "solo stops" in melodic work, such as Flutes, Gambas (of the older type) and Diapasons, and among the reeds the Oboe, Trumpet, Clarinet, *et cet.*, are common to the organs of both countries. The same is true of other stops used for special effects, in either solo or harmonic treatment; such as the Vox humana, Voix Célestes, Unda Maris, Quintadena, *et cet.*[1] New timbres, however, have not been especially sought; and thus it follows that some registers introduced into American organs during the past fifteen years are still practically unknown or unemployed in France.

The treatment of such stops as those named above, in solo or "special effect" work, needs no comment, as it differs but little from that to which we are accustomed.[2] It is chiefly in the combination of stops for general ensemble work, and in the manner of such combination, that our study lies.

As I have already noted, we find in French organs that dependence is placed largely upon the foundation stops for sonority, upon the reeds for power, and upon the reeds and mixtures, or mutations, for brilliancy.

[1] Interesting examples of the ingenious use, in opposition to each other, of solo stops or combinations on different manuals, will be found in *Les Heures Bourguignonnes*, by Georges Jacob; and in six Preludes for the *Magnificat* on the Feast of All Saints, by H. Dallier.

[2] In his admirable treatise, *L'Orgue Moderne*, M. Alex. Cellier has noted many interesting examples of the use of various registers both as solo stops and "*en détail*," or in combination with each other; with references to French organ compositions illustrating such use. As a study of the French organ, from the French point of view, this work is invaluable. A most interesting preface has been provided by M. Louis Vierne.

Probably one of the most striking usages in French registration is the frequent employment of all the foundation stops of a given intensity on all manuals simultaneously; as for instance, *GPR Fonds 8′*;[1] or *Fonds 16′, 8′, 4′*.[2] In this manner a homogeneous combination of any desired intensity is obtained, such as is generally adopted in performances of Bach's works, and of portions of many modern French compositions.[3]

To obtain a reduction of intensity without altering the general color of such an ensemble, it is sufficient to leave the *Grand-orgue* and pass **up** to the *Positif*, to which the *Récit* has previously been coupled; and from thence **up** to the *Récit*, finally closing the swell-box. The reverse operation is equally easy. The effect of this procedure on an American organ will be discussed in a later chapter; for the present it will suffice to point out its effectiveness on the French organ by reason of the relative strength of the foundation stops of the several manuals; those of the *Grand-orgue* being not disproportionately loud, and those of the other manuals being relatively strong and positive.[4]

It is a frequent custom to employ the foundation stops of all manuals as above, but with the addition of the

[1] Ex. 8. Widor: *2me Symphonie (Præludium circulare)*.
Dubois: Fugue in D Major.
César Franck: *Fantaisie* (C major); *Pièce symphonique; Prière: Chorale*, in E major. (See footnote, p. 74.)

[2] Ex. 9. Widor: *5me Symphonie*.
Bonnet: *Canzona*.

[3] "The ensemble of the 8-ft. foundation stops, corresponding to the string-quartet of the orchestra, constitutes the 'ordinary' of organ music; from it we obtain an impression of calm sweetness and infinite repose. Rapid movements, effects of power, are obtained from the mutation stops. The *organo pleno* of Bach is composed of these two groups to the **exclusion of all reeds upon the manuals.**" (Widor: *Technique de l'Orchestre Moderne.*)

[4] Ex. 10. Widor: *2me Symphonie* (1st and 3d movements).
René Vierne: *Prélude grave.*

reeds, or of the reeds and mixtures of the *Récit* only;[1] the closed swell-box makes it possible to keep the latter practically unnoticed in the background, to be utilized in making a gradual and impressive *crescendo*. In the latter case, of course, the foundation tone will no longer be exclusively evident.

Again, the foundation stops of any manual, either of 8′ alone, of 8′ and 4′, of 16′, 8′ and 4′, or 16′, 8′, 4′ and 2′, are frequently contrasted to specific colors, as strings or flutes, on other keyboards.[2]

In the matter of individual foundation stops, and of groups made up of them or including them, several considerations are vital. First of all let us take the *flûtes*.

The French organ is liberally provided with flutes, although perhaps less so than the German. In the former, the 8-ft. open flutes upon all manuals are most often of the harmonic variety; *i.e.*, through at least the upper half of their compass the pipes are made twice their usual length, and pierced so as to produce the unison pitch at the note played. This variety of stop was introduced by Cavaillé-Coll in the organ of Saint-Denis, in 1841, where the application of the "*machine Barker*," or pneumatic pallet, first rendered feasible the use of the additional wind pressure indispensable to it. The tone

[1] Ex. 11. Vierne: *1ère Symphonie* (*Prélude*)
2me Symphonie (Allegro)
Widor: *Symphonie gothique* (first movement)
8me Symphonie (fourth movement)
César Franck: *Pièce héroïque*
Bonnet: *Prélude*
Tournemire: *Pièce symphonique*
Pierné: *Prélude*
Maquaire: *Symphonie* (fourth movement)

[2] Ex. 12. Widor: *4me Symphonie* (*Andante cantabile*)
7me Symphonie (fifth movement)
Bonnet: *Nocturne*
Dubois: *Noël*

of the harmonic flute is brilliant and strong, but not over-loud. While other flute stops, such as the Clarabella and Traverse Flute, are also introduced in large organs, they are usually supplementary to those of the harmonic species, and, as a rule, do not replace the latter on more than one manual. The 4-ft. flutes also, except the *flûte douce*, are usually of this harmonic variety, as well as the 2-ft. stop called the *octavin*.

These harmonic flutes lend themselves admirably to combination in ensemble, and produce a sonority quite unattainable by Grossflöten; or by the Doppelflöte, formerly so much used in this country.

Before taking up the stops of the *gambe* group, I would call special attention to several registers whose quality is quite different from that commonly imparted to stops of the same name in American organs. I refer to the *violoncelle*, the *kéraulophone* and the *salicional*. The latter, while approaching the *gambe* in quality more nearly than does the *violoncelle*, is still a stop of medium, not of narrow scale; and in France it partakes more of the character of a quiet Diapason. The *violoncelle* stands between the *montre* and the *salicional*, as does also the *kéraulophone;* neither one possessing the distinct string quality, in the modern sense, which we would instinctively associate with it.

The French string stops of 8-ft. pitch are chiefly the *gambe* (not to be confused with our modern Gamba); and the vibrating stops *voix céleste* [1] and *unda maris*, of

[1] "The *voix céleste*, the principal type of stops of the vibrating species, regulated to produce quite rapid beats with the good *gambe* which is indispensable to it, — when employed with moderation and discretion, produces charming effects by reason of its finesse and penetrating vibrato, rendered elastic and softened by the swell-box. These effects have, so to speak, made it classic in the works of composers. Unfortunately it is often subjected to deplorable abuse. The organist who is lacking in taste and erudition, who finds in its strange timbre

which the former is often used in combination with other string stops.[1] Lacking the pungency characteristic of our modern string voicing, the *gambe* blends admirably with the other foundation stops, intensifying their effect without unduly betraying its own presence; and leaving to the *voix céleste* the character which is peculiarly its own, more by reason of its vibrations than because of the individuality of its tone-color.

The French *voix céleste* (with which the *gambe* is invariably drawn)[2] is noticeably stronger in intonation than ours, unless the latter be composed of pipes of the Gamba type; partly because the quality and intensity of the sharp rank (provided by the *voix céleste* itself) are not determined or governed by those of the soft Viola or Salicional to which the sharp rank is so frequently added in our organs. With us the result is either a Salicional having the quality and intensity proper to the Voix célestes, or else a Voix célestes of colorless and ineffective tone because of its determination by the necessities of the double use of the aforesaid Viola or Salicional. The French *voix céleste* is an extremely effective stop, both because of its distinctly individual character, and also because of its wide range of expression, due to the primary intensity of its voicing.[3]

a cloak for the poverty of his own technique, employs it upon every occasion; combines it upon a single manual with the most incompatible stops, and thus produces not only a perpetual tickling of the auditory nerve which is wearisome to a degree, but also a grating effect which far better merits the appellation infernal than '*celestial.*'" (C.-M. Philibert: *Le Grand-Orgue de Saint-Ouen à Rouen.*)

[1] Ex. 13. Widor: *6me Symphonie* (second movement).

[2] On French organs it is necessary to draw the *gambe* in addition to the *voix céleste*, the latter being a single-rank stop. On our own organs it is customary to have the register-knob for the Voix célestes draw both ranks simultaneously; it is therefore unnecessary for us to draw another stop to represent the *gambe*, when the latter, or its equivalent, is already included in the Voix célestes drawn.

[3] Ex. 14. Widor: *5me Symphonie* (Canon).

CHARLES-MARIE WIDOR

Examples of the use of various *Pédale* stops as solo registers are numerous, especially of those of 8-ft. pitch. It may be remarked that the 8-ft. *flûte*, although not of the harmonic variety when placed in the *Pédale*, is usually of metal, and endowed with a distinctly individual and effective character not easily attainable in a wooden flute of the heavier Grossflöte type. It is constantly used for solo work, as in the following examples:

Ex. 15. **Widor:** ***Symphonie gothique*** (second movement)
8me Symphonie (Variations)
Georges Jacob: ***Symphonie*** (Andante)
Maquaire: ***Symphonie*** (second movement)

The *violoncelle* is not voiced from the standpoint of imitation of its orchestral namesake, but rather from the point of view of its relationship to its fundamental prototype and to the *Pédale* as a whole. It is of marked effectiveness as a positive element in an ensemble combination. Instances of its inclusion in the ensemble of all the 8-ft. *Pédale* registers, will be found in the following works:

Ex. 16. **Georges Jacob:** ***Sous le noyer*** (***Les Heures Bourguignonnes***)
Widor: ***Symphonie gothique*** (last movement)
Symphonie romane (*Chorale*)

In addition to the use of the 4-ft. foundation stop (almost invariably an open flute) as already indicated, it is occasionally employed for solo work, as in

Ex. 17. **Widor:** ***5me Symphonie*** (*Canon*).

The *Pédale trompette* of 8-ft. is frequently used as a solo stop by almost all French composers, and is voiced

with special regard to such use. Its tone is powerful, as the character of the subjoined example would demand:

Ex. 18. **Widor:** *2me Symphonie* (edition of 1900) (*Salve Regina*).

In the general treatment of the *Pédale* by French composers several characteristics stand forth prominently. One is the avoidance of doubling in the octave, which at one time (and for special reasons) was so generally practiced in Germany. In this respect the example of Bach is again followed by the French school, and with unquestionable advantage to the development of a clear and precise Pedale technique. Another feature is the variety of phrasing indicated, which assumes for its effective and adequate realization Pedale action and pipe speech of invariable regularity and promptness. Passages which abound in the works of nearly all French composers would be impossible of artistic performance, were this assumption not justified. Whether for the phrasing of *legato* passages or for the clear and uniform detaching of some or all the notes in others, the French organ responds admirably to any demands that may legitimately be made upon it in these respects.[1]

The tendency of the French to indicate changes of manual with more frequency than alterations of registration upon a single keyboard is accounted for, at least in part, by the absence of convenient mechanical facilities for making several successive changes upon a single manual, such as are afforded by our composition pistons or pedals. It therefore follows that the practice in ensemble registration is rather to combine groups of like or unlike qualities, one from each manual, by means of the

[1] See Ex. 1 and 2. Also **Widor:** *2me Symphonie* (*Pastorale*).

couplers.[1] In this connection it is easy to realize the advantage of a fourth keyboard even on an organ of comparatively moderate size, as for instance that of the Madeleine in Paris; which possesses only 48 speaking stops, but has four manuals.

Not only are French organs practically devoid of combination movements of the type familiar to us, but *sforzando* and *crescendo* pedals are equally unknown. Mr. Schweitzer thus states the French point of view regarding the latter appliance:

"I well know the advantages of a Crescendo Pedal, for example, in oratorio accompaniment with large choruses; and I admit that in special cases exceptional effects can be produced with it. But I do not agree with its total domination, especially in instruments of less than thirty stops, where its effect is simply barbarous. I fear also that it has not had the best influence over our [German] organists, and especially organ composers, since it has led them both away from the genuine, simple, thoughtful registration and taught them to regard the organ as an instrument which is played 'loud and soft'; rather than as the many-sided unit, in which every *crescendo* must be the result of the combination of chosen tone-colors."

And again:

"The artistic being of an organ, and still more of organ music, is determined on this instrument by the manner in which the passage from *p* to *f*, from *f* to *ff* is effected, and from *ff* back to the original registration. In the German organ the Crescendo Pedal (*Registerrad* or *Walze*) has been adopted. It dominates the organ, as the playing of our virtuosi testifies; it commands the literature and composition, as a glance in a new organ composition reveals. In other words, we [the Germans] effect a *crescendo* by bringing on all the registers evenly,

[1] Ex. 20. Widor: *7me Symphonie* (fourth movement).
Quef: *Tristamento.*
Vierne: *2me Symphonie* (*Choral*).

one after the other, so that they all are played from the chief manual; we renounce the realization of the individuality of the several manuals in the *crescendo;* we accept it as standing to reason that every *crescendo* must connote a change of color; we find ourselves committed to the resulting monotony of having the order in which the stops are brought on always one and the same, namely, that which the builder has seen fit to provide in the Crescendo Pedal; we give up all thought of determining when we wish to introduce 16-ft. stops, or 8-, or 4-, or 2-ft., or mixtures, or reeds; in the ensemble we submit to the everlasting bondage into which the builder has led us, and renounce every liberty in effecting the *crescendo*, where liberty and Art are surely so closely related; all this, in order to be in a position to effect a *crescendo* by means of the simple movement of a wheel or pedal." [1]

The dependence placed upon the *crescendo* pedal in much of the German organ composition of recent years, fully justifies Mr. Schweitzer's attitude of protest. Although to a far lesser extent, there is danger of the same condition being realized in America by the alternative action of building up a *crescendo* by means of fixed combination movements, in the absence of a powerful and effective Swell- or Solo-organ. If the latter are lacking, after a certain point is reached only the stops added to the Great-organ have any perceptible effect on the ensemble.

The absence of any pedal movements or combination pistons operating single Pedale stops frequently leads the composer to employ the *Grand-orgue* exclusively as a means of obtaining certain registers in the *Pédale* at the desired moment, through the coupler, which is operated by a pedal. In this connection a 16-ft. *bourdon* on the *Grand-orgue* offers another advantage to the French organist, since it can be added as indicated through the

[1] *Deutsche und Französische Orgelbaukunst.*

pedal coupler to a *Pédale* combination of 8-ft. stops only, by a movement of the foot. The *Canon* by Widor offers an interesting example of the successive addition of 8-ft. and 16-ft. pitch to the *Pédale*, by coupling the *Récit* and *Grand-orgue* respectively; the only *Pédale* stop actually drawn being a *flûte* of 4-ft.:

Ex. 19. **Widor:** *2me Symphonie* (*Pastorale*)
5me Symphonie (*Canon*)
Vincent d'Indy: *Qui sequitur me non ambulat in tenebris* (*Antienne*)

Now let us examine the manner in which the full strength of the organ is attained on the French instrument by a gradual *crescendo* from a combination of moderate intensity.

Assuming that in most cases it is impracticable to add successively the remaining stops, in their proper order, by actually drawing the register-knobs, dependence must be placed entirely upon the mechanical accessories described in Chapter VI. These accessories are: ventils for the foundation stops of one or more of the manuals, and for the *Pédale;* ventils for the reeds (or reeds and mixtures) of each manual and of the *Pédale;* swell-pedals operating the folds of swell-boxes provided for at least the *Récit*, and often for one or more of the other manuals, always excepting the *Grand-orgue;* and finally the sub-octave couplers, with the addition, perhaps, as a final resource, of one or more reeds of extreme power. Bearing in mind that ordinarily every one of the accessories mentioned is operated by a pedal, without interference with the work of the hands in performing the music allotted to them, — and that no difficulty is commonly experienced in depressing or releasing each pedal at the precise instant demanded by the accent or phrasing of the com-

position,[1] — we realize that the French possess substitutes of no mean value for our composition movements, and for our Crescendo and Sforzando Pedals; although they are less numerous, and necessarily the manner of employment of their system must differ materially from that dictated by our own mechanical resources.

Generally speaking, the procedure is approximately as follows, although the order of entrance of each of the several tonal groups can be varied at will.

Foundation stops are drawn upon all manuals, also reeds; swell-boxes being closed, as well as the several reed-ventils. The ventil for the foundation stops of the *Grand-orgue* is also closed, making it possible to utilize this keyboard at first as one upon which to employ only the resources of the other manual divisions, obtained through the couplers; the foundation stops of the *Grand-orgue* not sounding, even though drawn, as is the case also with the reeds of all manuals. The *Récit* being coupled to the *Grand-orgue*, only the foundation stops of the former are first heard; then those of the *Positif* are added by means of the coupler, then those of the *Solo* or *Bombarde*, if there be a fourth manual; finally the ventil of the *Grand-orgue* is opened, and all the foundation stops of the organ are now united. The swell-boxes are now opened, or may have been opened at any previous time, according to the relative strength of the several manuals. With a quick movement the box of the *Récit* is now closed, the wind then being admitted to the reeds and mixtures of the *Récit* by the depression of the respective ventil-pedal; the swell-box then being slowly opened as far as desired. At the proper time the reeds of the *Positif* are similarly added, then those of the *Solo* and finally those of the *Grand-orgue* and *Pédale*, in each case by the opera-

[1] All the pedals operating ventils and couplers are of the "locking-down" type. (See drawing of console, opposite p. 42.)

THE NAVE

THE ORGAN

CATHEDRAL, CHARTRES

tion of the respective ventil. Continuing, the sub-octave couplers are successively added if desired; and if the *Récit* is sufficiently powerful, as is often the case, the opening of the swell-box, which may have been interrupted previously, is now completed, affecting the ensemble of the entire organ, as already noted in a previous chapter.

All of these movements are accomplished with extreme ease and accuracy, without removing a finger from the keyboard; and the *crescendo* thus obtained on a large organ is of peculiar smoothness and impressiveness. Naturally the reverse operation, — a *diminuendo* from the full power of the organ to the foundation stops of a single manual, — is effected with equal ease and in the same relative manner.

Modern French compositions afford abundant examples of this type of *crescendo*, for instance:

Ex. 21. **Vierne:** ***1ère Symphonie*** *(Prélude)*
2me Symphonie *(Allegro; Final)*
César Franck: ***Chorales***
Guilmant: ***Lamentation***
Boëllmann: ***Suite gothique*** *(Toccata)*

The operation and effectiveness of the French swell-box differs from our own only as such effectiveness is determined in each individual case by the construction and specification. As has been noted, in a large organ the *Récit* is plentifully supplied with mixtures, and with foundation stops and reeds of several pitches; it is designed to exercise its influence upon the total ensemble of all the other manual stops of the organ.[1]

[1] "Contrary to the custom of many German builders, who place in the swell-box only the softest stops, Cavaillé-Coll has always and rightly placed there powerful and brilliant registers. In a swell-box soft stops gain but little in sweetness, and offer but a very limited

In the use of the Swell, however, the custom of certain French composers and performers does vary materially from our own. This can best be expressed in the words of two well-qualified writers:

"That expression which is characteristic of the modern organ can be but subjective, it is born of mechanical means and possesses nothing of spontaneity. . . . A serious organist will never avail himself of these [this] means of expression, unless architecturally; that is to say, by straight lines and by designs. By lines, when he passes slowly from *piano* into *forte*, by an almost imperceptible gradient, and in constant progression, without break or jolt. By designs, when he takes advantage of a second of silence to close the swell-box abruptly between a *forte* and a *piano*." [1]

"We may say that in French organ-playing the sentiment for architecture, which to a certain extent is the foundation of every French art, comes to the fore. Thus the swell-box has its own special function. It serves not for emotional expression, but for architectural line. On all French organs the *Récit* manuals are so important that the foundation-tone of the whole organ may be affected by the tone-mass contained in the swell-box.

"Breadth and simplicity in the treatment of the swell-box become steadily more noticeable in French organ-playing. In César Franck and the older compositions of Saint-Saëns we find still the diminutive, frequent use of the swell-box as a substitute, to a certain extent, for the emotional expressiveness lacking in the organ. . . . But more and more this treatment

degree of variation in intensity. Stops which are powerful, decisive and brilliant, on the contrary, at the same time that they are capable of being held in restraint at the will of the performer, lend themselves to the sharpest contrasts as well as to the most finely graduated nuances and vary the intensity within such extended limits that such variations affect most sensibly the whole sonority of the balance of the instrument; an invaluable resource in rendering the effect supple and elastic." (C.-M. Philibert, *Causerie sur le Grand-orgue à Saint-Ouen de Rouen*).

[1] Ch.-M. Widor, Preface to *L'Orgue de Bach*, by A. Pirro.

is giving way to the simple, restrained use of the swell-box, only on broad lines, as it triumphs in the last works of Guilmant and Widor. It has become part of the flesh and blood of their pupils; compare the first organ symphony of Vierne with modern German compositions. . . ." [1]

[1] A. Schweitzer, *Deutsche und Französische Orgelbaukunst.*

PART II

THE ADAPTATION OF FRENCH REGISTRATION TO AMERICAN ORGANS

CHAPTER IX

Adaptation: The Manuals

In the adaptation of registration indicated for French instruments by the composer, the obvious similarity of nomenclature is in many cases a source of much danger. It is natural that we should translate the French designation, *gambe*, by Gamba; *flûte*, by Flute; *diapason*, by Diapason; *G.-O., jeux de fond de 8 pieds*, Great foundation stops, 8-ft.; *Péd. flûte 8′*, Ped. Flute 8′. Nothing could be simpler — or more liable to lead to an effect quite different from that realized upon the French instrument.[1] In this regard many American adapters and editors have laid themselves open to the charge of being satisfied with giving the obviously literal translation without consideration of real, or at least of approximate equivalents, or of the general characteristics of the French organ. And usually the published directions of French editors are not

[1] "With regard to printed indications, when given, they must nearly always be taken as **mere suggestions** and must by no means be blindly followed. Indeed, so great are the differences of tone and balance on various instruments that printed stop-indications are occasionally worse than useless — even misleading." (A. E. Hull: *Organ Playing.*)

"The sensitive orchestral conductor will take care to try out the stops of each organ with which he has to do, and will not be guided merely by their names. One and the same register is often constructed differently by different builders, or at least is differently voiced; again, many stop-names are also devoid of significance, while some defy all the skill of a philological expert." (Richard Strauss, in his revision of Berlioz' *Traité d'Instrumentation.*)

free from the same errors. To compare the characteristics of the typical instruments of each country, to the end that French compositions may be rendered upon our instruments with fidelity to the spirit, and not alone to the apparent letter of the composer's expressed intention, is the primary aim of this volume.

In this matter of adaptation, difficulty will be encountered in the treatment of the general ensemble more often than in that of solo stops or their combinations. As I have already pointed out, French builders include few stops in their organs with a view to their exclusive use in solo work. While there is no lack of variety of registers well fitted for such a purpose, in point of beauty and individuality of tone, these qualities are never allowed to predominate to such an extent as to impair their usefulness in combination with any and all other stops with which they properly might be combined. In all our study of adaptation we must keep the above constantly in mind, realizing that, before all, the French organ is an ensemble instrument, whose power is achieved not through the loudness or brilliance of a few stops, but by virtue of the combination of many component elements, each correctly proportioned to the other and to the whole, and all collectively producing an effect of solid and yet brilliant sonority.

Nowhere is the analogy between organ and orchestra more striking than in the aspect of the former as an ensemble instrument. It is not because it possesses stops imitating with more or less success the tone of various orchestral instruments, as flute, oboe, clarinet, English horn, trumpet, *et cetera* (a success which would not be enhanced, it must be suspected, were the tone of the real instrument, produced by an artist, ever to be heard by the side of that of its namesake in the organ). But it is because the principle upon which each founds its

ensemble, *viz.*, that of the combination of a few groups of primary tone-color, each liberally represented in sonorous capacity at various pitches, — is precisely the same in both instances. Subsequently, each of these primary tone-colors is, to a certain extent, affected by the individuality of its component parts; by stops on the one hand, by instruments on the other.

But suppose that the more individual instruments of the orchestra were to be increased in number and variety, and its fundamental resources correspondingly diminished by a reduction in the number of stringed instruments; would not the homogeneity of tone, the sonority of sound be affected in consequence, and detrimentally? Yet this is the precise tendency so often exhibited in some of our more recent organ building. The introduction of new and seductive qualities in individual stops which render them of more value for solo work than to the ensemble, has not infrequently been accompanied by an actual reduction in the number of foundation stops on subsidiary manuals; with the provision in the Pedale of but a limited number of pipes, supplemented by what to all intents and purposes are only individual octave couplers: other stops derived by augmentation.

Such a loss in general and proportionate tonal sonority can never be compensated for by the increase of wind pressures, or by augmenting the power of the Great stops; any more than it could be offset in the orchestra by the acquisition of wind instrument players of superior lung power and by a magic increase in the size and power of a reduced number of stringed instruments.

French compositions are conceived and registrated for instruments in which "all of the manuals are provided with good foundation stops, compound stops (mixtures) and reeds." And a *Pédale* similarly equipped, excepting possibly the mixtures.

CEŚAR FRANCK

It must frankly be admitted that here, at the beginning, we encounter what probably will prove the greatest stumbling-block of all in our study; for our modern organ construction, admirable as is the advance demonstrated in many respects, frequently leaves much to be desired in this particular connection.

As I have already stated, the several manuals of French organs exhibit less radical divergence of relative strength in foundation stops than the American; the foundation stops of the *Grand-orgue* are almost disproportionately moderate in their intensity, while ours are constantly being made stronger, as compared to those of the other manuals.

The moderate strength of the foundation stops of the *Grand-orgue* is amply demonstrated by their occasional use for the accompaniment of solo stops on other manuals, as in the following examples:

Ex. 22. Lemaigre: *Pastorale*
Récit: *Hautbois et Bourdon 8′*
Grand-orgue: *Flûte harmonique, Bourdon et Salicional 8′*
Chauvet: *Andante con moto* in D major
Récit: *Clarinette*
Grand-orgue: *Bourdon et Salicional 8′*
Vierne: *2me Symphonie* (*Cantabile*)
Récit: *Clarinette ou Cromorne 8′*
Grand-orgue: *Flûte harmonique*

The last example is particularly striking, as a *clarinette* or *cromorne* is employed as a solo stop on the *Récit* in the lower register, the accompaniment in two parts being written nearly two octaves higher and assigned to the 8′ *flûte* (*harmonique*) on the *Grand-orgue!*

The French *Positif* (Choir-organ) stands more in the relationship of a second Great, as ours formerly did but

does no longer; the foundation stops of the *Récit* are powerful, although held in restraint by the closed swell-box; while ours are more moderately voiced, and the opening of the swell-shutters may produce little effect over the strong registers of the Great, when the latter are numerous and independent. Further, the French *Positif* invariably possesses an eight-foot chorus reed, often others of 16′ and 4′; while a chorus reed of any kind is a rarity on the choir manual of an American organ. Finally, much is made of the mutation ranks on both *Positif* and *Récit;* especially upon the latter, where they are found in profusion, although with carefully regulated intensity.[1] They impart to the whole *Récit* a coherence and brilliance which our favorite Dolce Cornet (*sic*) is lamentably incapable of supplying. But it is just to note that French compositions are often conceived and registrated for instruments far larger and more complete than those which we may have at our disposal for our adaptations.

In general, where the French registration calls for foundation stops of 8-ft. pitch throughout the organ, or with those of 16- and 4-ft. added on one or more manuals, it will be necessary for us first to obtain all the foundation tone of the prescribed pitch that is available on the Swell and Choir, and then to add only one or two Great stops. Apropos of this expedient, it is interesting to note the comment made by an authority on this subject, with reference to similar adaptation to German organs. Although the latter again differ materially from our own in the proportion and characteristics of their ensemble, the analogy is obvious:

[1] The *Récit* of the organ of Saint-Sulpice contains no less than sixteen mutation ranks; of which two are simple, the balance distributed among three compound stops of four or five ranks each. The *Positif* contains four, and the *Solo* six simple mutation stops, in addition to a Mixture of from 3 to 6 ranks on each manual.

"For French compositions on German organs, I use only one-half of the foundation stops, hardly any 4′ or 2′ on the Great, on account of the upper register. I make it a matter of principle to draw only so many foundation stops on the Great and Choir that the foundation stops of the Swell coupled thereto will be distinctly heard, and that the swell-shutters will affect the entire combination. Only when this procedure is followed will César Franck, Widor, Guilmant, Saint-Saëns, Gigout and the others be reproduced on our [German] organs as they were conceived and actually sound in France."[1]

At the head of the original edition of the *Cantabile* of César Franck, the following registration is prescribed:

Ex. 24. **Récit: *Fonds 8′, Hautbois, Trompette***
Positif: *Flûte, Bourdon 8′*
Grand-orgue: *Flûte, Bourdon, Gambe, Montre 8′*[2]

To follow the line of least resistance, the stops which would seem to be called for on American organs are these:

Swell: Foundation stops 8′, Oboe, Cornopean
Choir: Flute, Gedackt 8′
Great: Flute, Gedackt, Gamba, Diapason 8′

So far, so good. The quality will be approximately, and the pitch exactly the same; but how about the dynamic mark *p* placed by the composer in the first measure of the composition, so often overlooked? This *p* is really the

[1] A. Schweitzer: *Deutsche und Französische Orgelbaukunst.*

[2] "Apropos of this composer [Franck] I must warn against accepting too zealously the letter of indicated registration. Franck prescribes, for example, the *trompette* of the *Récit* in the middle part of his exquisite *Pastorale*. While it is undeniable that upon a majority of instruments this registration is disagreeable, the organ of Sainte-Clothilde possessed on the *Récit* a small *trompette*, almost a *hautbois*, of very great finesse and flexibility; this justified a registration which would ordinarily be hazardous, although possible upon the organ for which it was conceived by the composer." (See Appendix, Specification X.) Alex. Cellier: *L'Orgue Moderne.*

key to the whole matter, for while the quality of the various stops of an organ may differ widely in various countries, dynamic indications, thanks to the almost universal employment of the Italian language for their designation, are, so to speak, **international.** *p* means the same thing to us that it did to César Franck in 1878; and, therefore, it is incumbent upon us to return to the indicated registration, and to modify it in such manner as each individual instrument may permit.

Numberless examples of similar character might be cited; some involving only the 8-ft. foundation stops, others those of 16- and 4-ft. and even 2-ft. in addition. Among them mention of the following will suffice:

Ex. 25. **Guilmant: Sonata, in D minor, Op. 61** (first movement)
Lemaigre: ***Pastorale***
Salomé: ***Offertoire,* in F minor**
Guilmant: ***Communion,* in G major, Op. 15**

When the Great and Choir are not employed as separate manuals, and it is possible even for the time being to use the foundation stops of the Choir as an integral part of the Great-organ, it is well to realize that precisely this function of the Choir manual was recognized in American organs of thirty years ago; in other words, the use of the Choir as a "second Great," either independently or coupled to the latter manual. With the introduction of a separate swell-box for the pipes of the Choir, the scale of the latter was, as a rule, not increased sufficiently to compensate for the consequent loss of power; and to-day it is not uncommon to find the Choir manual but scantily provided with efficient foundation stops, preference being given to registers of distinctly "solo" character, either reed or flue.

Under such circumstances the ingenuity of the organist

may well be taxed to follow the expressed intention of the French composer. The practically universal absence from our Choir manuals of any representation of the harmonic series, either simple or compound, together with the almost invariable loudness of the flue stops on the Great, indeed makes the problem a difficult one. Its solution must rest with each performer, guided by the resources of his instrument; I can only point out the conditions.

Among the infinite number of compositions which require the treatment above indicated in their adaptation to American instruments may be noted:

Ex. 26. **Widor:** ***5me Symphonie*** (third movement)
César Franck: ***Chorale,* in E major**
Prière
Chauvet: ***Andantino* in E major**

When the reeds in the *Récit* are prescribed in addition to foundation stops on all the manuals, the conditions are the same, as for example:

Ex. 27. **Vierne:** ***1ère Symphonie*** (*Prélude*)
Widor: ***Symphonie gothique*** (first movement)
César Franck: ***Pièce héroïque***
Déodat de Sévérac: ***Suite*** (*Final*)

In all the examples heretofore cited the registration is treated for the time being in a single color, or combination of colors; the *Récit* and *Positif* being coupled to the *Grand-orgue*, and the *Récit* to the *Positif*. When a reduction of intensity is desired, the composer directs the passage from the *Grand-orgue* (*GPR*) [1] to the *Positif* (*PR*), but evidently does not intend such reduction of power to

[1] In published French organ compositions it is customary to indicate the several manuals by their initial letters, *viz.*: *G* or *G-O* for *Grand-orgue*, *P* for *Positif*, and *R* for *Récit*. The *Pédale* is designated by the abbreviation *Péd.* Grouped initials, as *GPR*, *GR*, *PR*, indicate manuals coupled together, or to the *Pédale*.

be radical. Here we see the importance of not allowing the Great to be materially louder than the other two manuals coupled together; if the combination is of foundation stops alone, the swell-box of the *Récit* is kept open throughout, being closed only when it is desired still further to soften the tone after leaving the *Positif* (*PR*) and passing to the *Récit*.

Ex. 28. Widor: *2me Symphonie* (third movement)
7me Symphonie (fourth movement)

In this connection it may be noted that it is often impossible to obtain a flue stop of 16′ of the proper intensity on our Great manuals. Even on moderate sized French organs a *bourdon* of 16′ is frequently, if not almost always, provided on the *Grand-orgue* in addition to the *montre* or *principal* of 16′. The function of the former is not only to round out the diapason tone, but also to provide a softer 16′ stop for general use; and to complete the representation of 16-, 8- and 4-ft. pitch in the flute family on this manual. Such a stop is called for in many French compositions, as for instance:

Ex. 29. Lemaigre: *Andante religioso*
Widor: *8me Symphonie* (second movement)
Guilmant: *Marche de Procession*
Marche funèbre et Chant séraphique
Vincent d'Indy: *Prélude et Petit Canon*

As a rule the 16-ft. Diapason on our Great-organ will be too strong for use without the 8-ft. Diapasons, and the 16-ft. stop usually placed on our Choir manuals (a Dulciana or a Gamba) will be too weak properly to replace the French 16′ *bourdon* of the *Grand-orgue*. In this case it may be possible to utilize a Choir to Great sub-octave coupler; although this must be employed with careful attention to the amount and quality of 16-ft. tone thereby introduced, while in the lower octave the latter will of course be entirely lacking.

SAINT-MACLOU, ROUEN

THE ORGAN

In the case of four-foot stops on the *Grand-orgue*, a 4-ft. Flute of moderate intensity is usually available on the Great of our organs.

All of the foregoing applies to combinations of foundation stops on all manuals simultaneously, of moderate intensity. Should the dynamic mark be *f* or *ff*, we will generally be able to use the foundation stops of the Great without modification. In such a case, however, it must be remembered that the drop in intensity upon passing to the Choir, even if the Swell is coupled to the latter, will be far more marked than upon the French organ; partly because in the latter the subsidiary manuals as well as the *Grand-orgue* are liberally supplied with stops sounding the octave and higher harmonics of the fundamental tone, and partly because of the greater strength of the foundation stops on the subsidiary manuals, in proportion to the corresponding registers of the *Grand-orgue*. Obviously, our method of procedure must be to reduce the Great before leaving it, even though we pass to the Choir at a point later than that indicated by the composer, or even remain on the Great throughout, perhaps with but one or two stops drawn as a minimum.[1] For we must bear

[1] The prefatory notes to the edition of Bach's organ works by MM. Widor and Schweitzer are in every way admirable in their insight into the form of the various compositions, and in the fidelity of their interpretation in the light of a true conception of the "Bach spirit." But these notes are an English translation of the original French, and I cannot help feeling that their spirit has suffered through what is undoubtedly a literally accurate translation. The notes were written from the standpoint of the French organ; we must interpret them in the light of our own instruments. Particularly in the matter of the frequent changes of manual prescribed in so many of the preludes and fugues, we must not forget the words of one of the authors himself, already quoted in this book:

"There must be no wide gulf between any pair of manuals; otherwise the contrast obtained by alternation is too sharp. . . . They should be differentiated from one another not only (and not so greatly) by strength, but rather by timbre." (See footnote, p. 23.)

in mind that our task is not one of slavish obedience to indicated changes of manual in ensemble work; it is rather that of producing the intended effects of variety and dynamic gradation, even though by an entirely different process. In other words, we must invariably consider as supreme the evident intention of the composer as regards tonal effect; seeking to fulfil the spirit and not merely to follow the letter of his indications.[1]

In the case of combinations of foundation stops upon a single manual we will usually experience less difficulty; we must be guided largely by the conditions imposed by the resources of each individual instrument.[2] A satisfactory combination of foundation stops of 16-, 8- and 4-ft. pitch of any intensity above *mf* will probably be difficult of attainment upon the Choir manual; possibly the Swell can be called to its assistance for the time being, but this will not often be the case. It may be necessary to rely almost wholly upon the 8-ft. stops of the Choir.

Ex. 30. **Widor:** ***5me Symphonie*** **(III)**
Vierne: ***2me Symphonie*** **(*Cantabile*)**

In a preceding chapter, I have described the French method of building up gradually to the full power of the organ, by first completing the union of foundation stops on all manuals, then adding successively the reeds of the *Récit* and *Positif*, and finally those of the *Grand-orgue* and

[1] It is well known that César Franck was accustomed to indicate the registration of his organ works after critical experiment upon the organ of Sainte-Clothilde. (See Vincent d'Indy: *César Franck.*) This makes a study of the specification of this organ not only interesting but of great importance.

[2] "It is to be noted that Franck indicates the addition of the *hautbois* of 8′ to the *fonds*, because of the small number of stops in the *Récit* of the organ of Sainte-Clothilde, which was his own; and in order to render appreciable the nuances produced by the opening and closing of the swell-box. With our expressive and powerful *Récits* and *Positifs*, this addition will often be unnecessary." (A. Cellier: *L'Orgue Moderne.*)

Pédale. In reality this method is dictated by the construction of the French instrument, which has already been described; the reeds and mixtures of each manual being placed upon a separate division of the chest, and the wind supply to the action thereof being cut in and out by pedals. Under this system all the reeds of 16′, 8′ and 4′ which are drawn on each manual are added simultaneously; unless they be drawn separately by hand, it is not possible by a mechanical movement to add first those of 8′, then those of 4′ and finally those of 16′, as with us; or *vice versa.* The same applies to the foundation stops of 16-, 8-, 4- and 2-ft. pitch.

Upon the American organ it is not only difficult but inadvisable to adhere to the above procedure. As I have noted, our Choir manuals rarely boast of even a single chorus reed of trumpet quality, but our system of composition movements, whether operated by pistons or pedals, places at our disposal the means to produce an effective crescendo by the addition of one or more stops at a time. It is true that from a certain point onward the effect will be that of a crescendo less homogeneous in tone-color, because of the successive addition of stops of various pitches; but again we are concerned with the means at our disposal and with the question of their best employment from the standpoint of our own instruments.

Ex. 31. **César Franck:** ***Chorale,* in E major**
Widor: ***Symphonie romane*** (first and fourth movements)
Vierne: ***1ère Symphonie*** (*Prélude*)
Guilmant: ***Lamentation***

Thus far I have considered only combinations of foundation stops of which the pitch and intensity have been prescribed by the composer. In all purely ensemble combinations these elements are the most important, it

being taken for granted that no stop will be drawn which is of such pronounced individuality as to be incapable of assimilating and blending properly with all the other stops ordinarily included in such combinations.

I would by no means imply, however, that the French composer is insensible to the nuances of color which are possible even in combinations of a number of registers. But it must be recognized that of the three elements in which musical sounds differ from one another, *viz.:* pitch, intensity and color or quality,—the first two are the only ones whose designation is universally standardized. The terms 16-ft., 8-ft., 4-ft., etc., are used in all countries, excepting possibly in Spain; while the various dynamic gradations from *pp* to *ff* convey to us in America identically the same meaning as to the composer in London, Paris or Berlin; excepting as the interpretation of the latter terms may be somewhat influenced by the proportion to a specific instrument borne by each of its registers, or by the size of the whole instrument with relation to the edifice or auditorium in which it stands.

In this connection two classes of stops call for special consideration: those of Flute and those of String quality.

As I have already noted, the French organ almost invariably provides harmonic flutes of 8′ and 4′ on the *Grand-orgue* and *Récit*, and often on the *Positif* (and even the *Solo*, if there be one) as well. A glance at the specifications in the Appendix will confirm this statement.

It is greatly to be regretted that the Harmonic Flute of 8-ft. has not been more generally adopted in this country; even in large organs constructed here in recent years, I believe that not more than one stop of this variety and pitch will often be found in each, and sometimes not even that.

When French compositions call for the combination of *flûtes* of 8′ and 4′, or of 16′, 8′ and 4′ on all manuals, the

success of its adaptation to our own organs will depend entirely upon the resources of each individual instrument.[1]

Where 8′ and 4′ *flûtes* are called for on a single keyboard, provided the general registration will permit, we may be able to take advantage of the resources of more than one manual. In the case of the Choir, the swell-box must usually be entirely open, although even then the Melodia and Flute d'amour so often found on this manual are but an unsatisfactory equivalent of harmonic flutes of the same pitch.

As to the Swell, although some American builders include thereon in large instruments an open flute of 8-ft., too many of our organs still lack such a register. It is usually impossible for us properly to reproduce the French designation of *Récit: flûtes 8′ et 4′*. A Bourdon or Stopped Diapason (*sic*) of 8-ft., and a weak flute of 4-ft. even though the latter be harmonic, are lamentably inadequate to represent them. The use of the Choir Flutes of 8-ft. and 4-ft., with the swell-box entirely open, will frequently provide the only solution of the difficulty.

Ex. 33. Widor: ***Symphonie romane*** (*Chorale*)
7me Symphonie (*Chorale*)

The greatest care must be exercised in the case of the *flûte harmonique* of 8-ft., so very generally called for in solo work upon the French *Grand-orgue*, when the desired intensity either is distinctly marked *p* or is obviously intended to be such.

Of late years the tendency in America has been to install a "Gross Flute" (*sic*) or Grossflöte upon the Great, when power and rounding-out qualities are desired; and Concert Flutes or Clarabellas on subsidiary manuals. Whatever merit the Grossflöte may possess for purposes of com-

[1] Ex. 32. Widor: ***4me Symphonie*** (*Scherzo*)
Quef: ***Fabliau***

bination with diapason tone or in the general ensemble of the Great manual, its tone is too often characterless and unfit for refined solo work. The use of a Grossflöte of this type upon the Great as a substitute for the *flûte harmonique* prescribed in innumerable French compositions, will nearly always result disastrously. If there be no other 8-ft. flute stop on the Great of more moderate intensity and more acceptable quality, such as a Clarabella or a Melodia, it will nearly always be more in keeping with the spirit of the designated registration and of the composition to utilize an 8-ft. flute on the Choir, with the swell-box open; unless it is practicable to employ the 4-ft. flute on the Great, playing the part an octave lower than written. None of these substitutions can compensate adequately, however, for the loss of the admirable sonority and brilliance of the *8′ flûte harmonique.* But any one of them will usually prove more endurable than the average Grossflöte used as a solo stop.

Ex. 34. **Roger Ducasse:** ***Pastorale***
Charles Quef: ***Andante cantabile***
Widor: ***Symphonie gothique*** (second movement)
Dubois: ***In Paradisum***

The other class of stops demanding special consideration is the *gambe* family. Reference to the specifications in the Appendix will demonstrate the prominent position occupied by stops of this class upon the several manuals of French organs.

Before all, I must protest against the almost universal custom of translating *gambe* by Gamba. Thirty years ago, it would have been not only possible but entirely justifiable, for the tone of the Gamba of that epoch was far different in character from the keen, almost cutting quality and frequently increased intensity of the register as voiced in recent years. Modern methods of string

voicing in this country, however, have produced a Gamba which has little or nothing in common with the French *gambe* except pitch.[1]

Undoubtedly the gradual elimination of mixtures in this country has necessitated the sharper characterization of certain foundation stops, by imparting more prominence to their overtones; but the French *gambe* has not changed. While it is by no means a stop of colorless tone, it is so voiced as to be capable of general use in combination, and furnishes the amount of incisive tone essential to the ensemble as a whole.

Reference to the table on p. 47 will show the relationship of the *gambe* to the other foundation stops. It is less full in quality and is of smaller scale than the *violoncelle*, and is more stringy than the *salicional*. It must again be emphasized, however, that it does not approach our modern Gamba in sharpness of tone, and that it is relied upon as a component element of the ensemble of the manual upon which it is placed; a disposition which cannot always be made with safety upon our later American instruments.[2]

[1] I have no intention of criticising unfavorably the quality of the Gamba as voiced to-day by some of our most prominent builders, so far as its use as a solo stop is concerned; on the contrary, they have produced a register of marked individuality and great usefulness for many purposes. I put myself on record in this matter some years ago, when I was instrumental in having installed in each of several organs a Voix célestes of two independent Gamba ranks, and a solo Gamba of what was at the time a most radical type. In one instance the latter is of such power and character, being designed exclusively for solo use in a comparatively large edifice, that I dread to think of the result should our time-honored direction "Great Doppelflöte and Gamba" be obeyed literally for an ensemble passage intended to be only moderately loud!

[2] "The Gamba-tone might be supposed at first to be lower in the colour-scale than Trumpet-tone. That it is not so is easily proved by the fact that a single Gamba-stop easily makes itself felt even in a large mass of other stronger tones. . . . Consequently the Gamba-tone only appears on the organ in its softer scales and is used with great reserve, and **never for long periods**, as it soon palls on sensitive ears. . . ."

"The term 'String-tone' is somewhat misleading, as the Gamba-tone often

While a *gambe* is not infrequently placed upon the *Grand-orgue*, it is more often found upon the *Récit* or *Positif*, whose foundation stops have been noted as more incisive in character. For the *Grand-orgue* the *violoncelle* is often given preference; it is worthy of comment that in the Saint-Sulpice organ the entire Great division (comprising the *Grand-chœur* and the *Grand-orgue* together), which contains in all twenty-six stops, has but a single register of any pitch approaching string quality: a *salicional* of 8′!

In our organs, a Violin Diapason or a conservatively voiced Salicional, if of good body, will usually be found the best equivalent of the *gambe*, although neither is an entirely acceptable substitute for it in ensemble combinations, or where smoothness of tone together with a certain degree of power are desirable. Further consideration will be given to this matter in the chapter on editions published for American organs.

One or two other designations often encountered call for a word of explanation. "*Anches 16′, 8′, et 4′*" are not infrequently prescribed for one or more manuals, without mention of foundation stops. In such cases it is generally to be understood that the reeds are supplementary to the foundation stops, and not to be drawn exclusively in their stead.

Ex. 35. Widor: ***6^{me} Symphonie*** (*Intermezzo*)

The same applies to the designation "*Mixtures*"; the simultaneous employment of flue stops of such intensity and pitch as will furnish a proper foundation tone and bridge over any possible gaps between the latter and the mixtures, is naturally considered indispensable.

approximates much more closely to the orchestral oboe than to the violin." (A. E. Hull: *Organ Playing.*)

CAMILLE SAINT-SAENS

Ex. 36. **Widor:** ***2me Symphonie*** (*Salve Regina*)
Symphonie gothique (last movement)

Where an ensemble combination of *gambes* on one or more or on all manuals is called for, we must translate *gambes* by "string-toned stops," rather than by the apparently literal synonym, Gambas. Only when the quality of the latter stops is consistent with the effect obviously intended by the composer may they be used in such an instance. As a rule, keenly voiced Gambas or other string-toned stops will better be replaced by string-toned stops of less individuality, and of better blending capacity.

Ex. 37. **Bonnet:** ***Lamento***
Widor: ***6me Symphonie*** (*Adagio*)

In these, as in all other matters of adaptation, the organist must be guided by the conditions imposed by the instrument at his disposal. My desire is only to place him on his guard against a too literal acceptance of the apparent directions of the composer, and to assist him, through a knowledge of conditions of voicing as they actually obtain in France, to carry out the spirit of those directions; making the end, and not the means, the primary object of his solicitude.

CHAPTER X

The Pedale

In no department of American organs have more radical changes been effected in recent years than in the pedale division. This fact is not always apparent upon examination of a new specification, which may seem to present stops in the Pedale approximately the same in number and nomenclature as those to which we were accustomed before the beginning of the so-called "revolutionary era." Upon a detailed examination of the stops themselves, however, we will almost invariably find that more or less use has been made of the systems of "augmentation" or "borrowing," if not of both. The introduction of indirect action has made the adoption of these two systems practicable; I shall describe and consider them in detail later.

In organs of moderate size, constructed in America before the introduction of tubular- and electro-pneumatic action, the pedale division as a rule was not large; in fact it was often disproportionately small, excepting in the larger instruments. Consequently, whatever stops were included were usually of good body, since each must constitute an appreciable element of the total ensemble, as regarded sonority and effectiveness. And it was rare to find pedale stops whose chief usefulness could lie only in solo work or in the provision of an extremely soft bass.

In the larger organs the specification was not dissimilar

to that of the typical French instrument, as the following comparison will show:

SALLE DES FÊTES Trocadéro, Paris Cavaillé-Coll (1878)		MUSIC HALL Cincinnati, Ohio Hook and Hastings (1884)		AUDITORIUM Chicago, Illinois Hilborne L. Roosevelt (1888)	
Principal Basse	32′	Open Diapason	32′	Open Diapason	32′
				Bourdon	32′
Grosse Flûte	16′	Open Diapason	16′	1st Open Diapason (wood)	16′
Contrebasse	16′			2nd Open Diapason (metal)	16′
Violon-basse	16′	Violone	16′	Violone	16′
Soubasse	16′	Bourdon	16′	Stopped Diapason	16′
		Dulciana	16′	Dulciana	16′
		Quintflöte	$10\frac{2}{3}$′	Quint	$10\frac{2}{3}$′
Grosse Flûte	8′	Flöte	8′	Flute	8′
Basse	8′	Octave	8′	Octave	8′
Violoncelle	8′	Violoncello	8′	Violoncello	8′
Bourdon	8′	Bell Gamba	8′		
				Octave Quint	$5\frac{1}{3}$′
		Super-octave	4′	Super Octave	4′
		Cornet	v rks.	Mixture	iii rks.
Contre Bombarde	32′	Contra Bombarde	32′	Contra Bombard	32′
Bombarde	16′	Trombone	16′	Trombone	16′
Basson	16′			Contra Bassoon	16′
				Serpent (free reed)	16′
Trompette	8′	Posaune	8′	Clarion	8′
Basson	8′				
Clairon	4′	Clarion	4′		
Baryton	4′				

In each of the above specifications it is at once apparent that each of the principal tone-colors, viz.: diapason, flute, string, — is represented at more than one pitch; and the same is true of the reeds. Under contemporary methods of building every one of these stops was complete in compass and independent of every other stop; and therefore conformed to the conditions noted on p. 33.

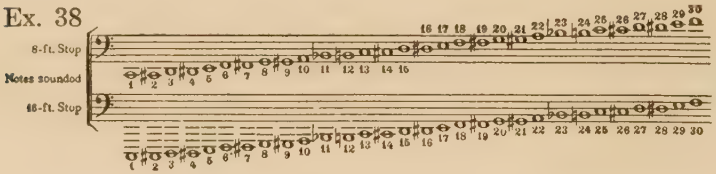
A Pedale division so constituted, demanded proper space for its installation, and formed no inconsiderable item in

the total cost of the instrument; owing to the relatively large size of the pipes, and the frequent necessity of dividing them among numerous small and detached wind-chests, with resulting extension of action and of wind-trunks or tubing.

With the advent of indirect action it became possible to make a smaller total number of pipes in the Pedale appear to serve the same end as the complete sets formerly installed, by means of the systems of "augmentation" and "borrowing." These two systems are radically different in their effect upon the ensemble of an instrument; but since the two designations are so frequently confused, and employed as though they were synonymous, I shall define each separately.

If we place the pipes of a 16-ft. stop side by side with those of one of 8-ft. and of approximately the same quality, thus:

Ex. 38



we will find that pipe No. 1 of the 8-ft. stop corresponds in pitch to No. 13 of the 16-ft.; No. 22 of the 16-ft. to No. 10 of the 8-ft., and so on. Assuming that both stops are drawn at the keyboard, any note played will cause two pipes to speak, an octave apart in pitch. To provide a separate pipe for each note of the scale in each stop would require, in a thirty-note Pedale, sixty pipes. If a method could be found to utilize for the 8-ft. stop those pipes of the 16-ft. which afforded the desired pitch, it would not be necessary to provide these pipes separately in the former; in other words, when necessary, the 8-ft. stop could help itself to any one of the upper eighteen pipes belonging to

its elder brother, the 16-ft. register; leaving only an additional octave to be taken care of independently. As the latter pipes are comparatively small, they would add little expense; and with indirect action the various connections from keyboard to chest could easily be taken care of.

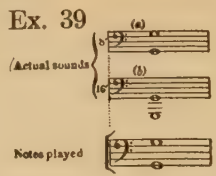
The following table (taken from the specification of a well-known three-manual organ of about fifty-five speaking stops, and of powerful sonority) will illustrate the saving in the number of pipes necessary, where the system of augmentation is used.

Diapason	(wood)	32′	54 pipes
1st Diapason		16′	
2d Diapason	(metal)	16′	54 pipes
Violone		16′	42 pipes
Bourdon		16′	42 pipes
Quint		$10\frac{2}{3}$′	
Flute		8′	
Octave		8′	
Violoncello		8′	
Bourdon		8′	
Super Octave		4′	
Trombone		16′	42 pipes
Trumpet		8′	
13 stops			234 pipes

In this manner two hundred and thirty-four pipes suffice, so far as pitch is concerned, where under the old system thirteen times thirty, or three hundred and ninety, would have been necessary. All of the pipes are playable from the Pedale only, and are independent of the manuals; and as many pipes will speak when a single note is played in the Pedale, as there are stops drawn. When an octave is played, however, the total number of pipes will not be doubled, but will be less than twice the number of stops drawn; since the upper pipe sounding in the stop of 16-ft.

pitch is the same pipe which serves as the lower note of its derivative stop, thus:

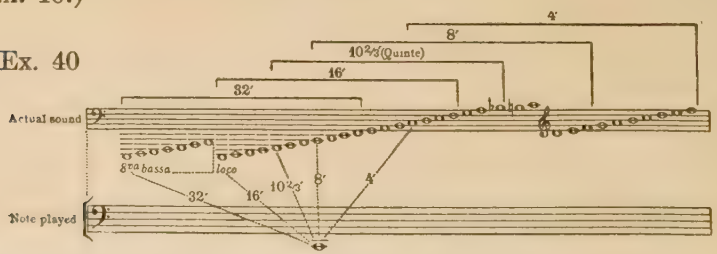
Ex. 39



In other words (*a*) and (*b*) are one and the same pipe, which naturally can speak but once.

By extending the compass of a 32-ft. stop upwards, three octaves, it is possible to obtain no less than five complete stops in the Pedale, by use of the system of augmentation. These stops will not differ materially from one another in quality or intensity, unless such variation be made apparent in a single one of them; and thus the principle of the relationship of an overtone to its fundamental, as regards proportionate strength and quality, so important in its effect upon the Pedale as a whole, will not be strictly regarded. It is undeniable, however, that while a total of one hundred and fifty pipes would be required if the five stops were to be constructed independently of each other, only sixty-six will be necessary under this system; a saving of fifty-six per cent in the number of pipes required, albeit of relatively smaller ones. (See Ex. 40.)

Ex. 40



The system of augmentation is sometimes known as "octave duplication," or "*dédoublement.*"

CATHEDRAL, BAYEUX

THE NAVE FROM THE ALTAR

By "borrowing," I designate the system whereby a part or the whole of a stop, normally belonging to a certain division of the organ, may be played also from another division without the use of a coupler; having a separate register-knob in its second location. Thus a stop belonging to the Solo-organ may be borrowed and used also in the Choir, or vice versa; manual stops are often borrowed for use in the Pedale, and, occasionally, stops are similarly borrowed from the Pedale for use upon a manual. In the latter case, of course, extension of the compass is necessary.

This system is also known as "communication," "transmission" or "interchanging" of stops. There is nothing new in it, as it was employed in England over two hundred years ago, even with the direct action then in use.

The system recommends itself for use in small instruments, where economy of space and cost must be considered.[1] Its adoption in such cases provides distinctly more flexibility and variety. Furthermore, the borrowing of soft manual stops for use in the Pedale, such as a

[1] "Transmission of stops, *i.e.*, the re-introduction of a register as an independent stop on another keyboard — is permissible in small organs as a makeshift, if it is a question of borrowing one or two stops, especially for the purpose of rendering the Pedale more complete."

"The repeated use of a single set of pipes under the augmented system — whereby the number of registers may be sensibly increased in comparison to the actual sets of pipes — is not to be rejected in the case of very small organs, particularly 'salon-organs.' But a single set of pipes shall not be so used for more than two registers."

"The employment of the systems of Transmission and Augmentation must always be dictated by lack of space or money. It should always be made an exception, to be justified in each case. As a rule all registers should be constructed throughout as independent speaking stops."

"Stops derived by Transmission and Augmentation shall not be given equal place with the independent stops in the specification, nor included in the total number of registers, but shall be designated as such [derived stops] and added separately to the number of the independent registers, since the principle must be upheld that only the latter are numbered. It is the duty of experts to see that organ builders respect this principle in the numbering of their specifications, in order to preclude any possibility of unfair competition through a partially fictitious number of registers." (*Internationales Regulativ für Orgelbau.*)

16-ft. Bourdon from the Swell, or a Choir Dulciana or Gamba of 16-ft., is particularly to be recommended in all organs; and it is even possible to obtain additional stops by "augmenting" the borrowed ones.

But the apparent success of augmentation as practised upon important instruments has undoubtedly led to further innovation in the way of interchanging stops between manuals, and between a manual and the Pedale. It does not always seem to be clear to organists, and others interested in the instrument, however, that the two systems of augmentation and borrowing, while superficially somewhat akin, actually are totally different in their effect upon the ensemble of the instrument. The former makes use almost exclusively of pipes that for the moment would otherwise be standing mute. A stop of the desired pitch is obtained; and in intensity and tone-color it at least approximates what it would be if independent and voiced as a supplement to, and not as a part of the stop from which it is derived. In my opinion, a Pedale making any considerable use of the system of augmentation is not as clear, not as desirable as one in which every important stop is chosen and voiced solely from the point of view of its own effect. But in comparison with other considerations, I cannot do more than assume that the question of augmentation will be decided in accordance with the specific conditions governing the choice and construction of each individual instrument, and after carefully weighing the advantages gained in other respects with the undoubted disadvantages so easily recognizable in the system. It is idle to claim that the latter do not exist or are not material. Such an assertion is based either upon a failure to recognize or admit that tone quality and independence are of as real importance in the Pedale as on the manuals; or else upon the claim that these considerations are inferior in importance to the addition of solo stops on the manuals,

or to an increased variety of couplers and mechanical accessories.

With the system of borrowing, particularly from a manual to the Pedale, the matter is more serious. This system does not "make use almost exclusively of pipes which for the moment would otherwise be standing mute"; on the contrary, it substitutes for independent pipes in the Pedale the pipes of a manual stop (usually at the same pitch) which forms a part of the whole ensemble. It is true that the notes assigned to the Pedale are usually lower than the lowest note simultaneously played upon the manuals; and it is also true that when the stop so borrowed is not in use upon the manual, it is often most convenient that it may be used as an independent stop in the Pedale. As I have already pointed out, the latter is especially true of soft stops, their influence upon the total ensemble being so negligible that their inclusion as independent registers in the Pedale is hardly worth while, in a large organ. Under this head come 16-ft. flue stops from Swell and Choir; a Bourdon of 8′ can often be derived by augmentation from the Swell Bourdon of 16′; and is most desirable in the Pedale, being softer than the one derived from the Pedale Bourdon of 16′ by the same method.

Stops that do not come under this head are all registers whose quality and sonority should exercise an appreciable influence upon the general ensemble; such as heavier Bourdons, Violones, Diapasons and the stronger reeds, with their complementary stops at other pitches.[1]

[1] Mr. G. A. Audsley has expressed his opinion of the merits of these systems in no unmistakable terms. In his remarkable work, *The Art of Organ-building*, he says:

"Among the several objectionable practices which obtain in the modern system of organ-building there is none to be more severely condemned by those who realize what a correct tonal structure and an artistic tonal appointment mean, and who desire to see the organ scientifically developed as a musical instrument, than the destructive system of *borrowing* [augmentation] which is advocated and resorted to in certain quarters to-day. . . . Borrowing is de-

The table on page 91 contains the Pedale specification of representative instruments constructed in the United States during the past fifteen years by four well-known builders. These specifications fairly represent the method of modern builders who make extended use of the systems of augmentation and borrowing. It would be unfair to criticise any one of these specifications, as to its adequacy for its instrument, without a full knowledge of all conditions pertaining thereto: the size, specification and character of the organ in general, the amount of space available for its construction, the size and acoustic conditions of the edifice in which it is placed, and any restrictions as to cost. It is, however, eminently proper that we should employ this graphic illustration of the very radical change in methods of construction which has taken place during the past two decades; for a full realization of its effect is indispensable to the immediate subject of our work.

Little remains to be added to what I have already pointed out. The modern American Pedale contains practically the same stops as the corresponding division of the typical French organ; certain variations of intensity or quality having been previously noted. In case important stops are borrowed from the manuals for the Pedale, however, special treatment in adaptation will undoubtedly be necessary. It must not be forgotten in such cases, that the stop has been voiced, as to intensity and quality, from the standpoint of its position upon a manual (except in

structive to a very serious extent of both tonal variety and strength. We maintain that no two stops in any organ, however large, should be exactly alike in *timbre* or in strength of voice; and that when any two stops closely approach each other in *timbre* they should be widely apart in strength of voice.

"Beyond the formation of an expressive auxiliary Pedal organ, . . . we strongly condemn the practice of borrowing and duplication as unscientific, inartistic, and fatal to a perfect tonal appointment." (Vol. II, pp. 13–18.)

Every one interested in the future of the organ in this country will do well to read the entire chapter from which the above is quoted. Mr. Audsley has put the whole case with admirable clearness and force.

(1904) Four Manuals: 78 Speaking Stops (*a*)		(190–) Four Manuals: 69 Speaking Stops (*a*)		(1913) Four Manuals: 69 Speaking Stops (*a*)		(1913) Four Manuals: 93 Speaking Stops (*a*)	
Gravissima (*b*)	64′	Magnaton	32′	Resultant (*b*)	64′	Diapason	32′
Diapason	32′	Bourdon	32′	Diapason	32′	Contra Violone	32′
Contra Bourdon	32′	Diapason	16′	Bourdon	32′	First Diapason	16′
Contra Bass (*b*)	32′	2d Diapason	16′	Diapason	16′	Second Diapason	16′
Diapason (wood)	16′	Bourdon	16′	Violone	16′	Violone	16′
Diapason (metal)	16′	Violone	16′	Diapason	16′	*Dulciana*	16′
Violone	16′	*Lieblich Gedackt*	16′	Bourdon	16′	*Gamba*	16′
Bourdon	16′	*Contra Viole*	16′	*Gamba*	16′	*Bourdon*	16′
Dulciana	16′	Grossflöte	8′	*Gedackt*	16′	*Echo Lieblich*	16′
Lieblich Gedackt	16′	Flute	8′	Quinte	10⅔′	Octave	8′
Bass Flute	8′	Violoncello	8′	Gross Flute	8′	Violoncello	8′
Octave	8′	*Gedackt*	8′	Flute	8′	*Gedackt*	8′
Violoncello	8′	Flute	4′	Violoncello	8′	*Still Gedackt*	8′
Bourdon	8′	*Tuba*		Gedackt	8′	*Bombarde (e–f)*	32′
Super Octave	4′	*Profunda (d)*	16′	*Ophicleïde (c)*	16′	*Ophicleïde*	16′
Flute	4′	*Posaune*	16′	*Tuba (c)*	8′	*Contra Posaune*	16′
Bombarde	16′	*Harmonic Tuba*	8′	*Clarion (c)*	4′	*Tuba*	8′
Contra Fagotto	16′					*Clarion*	4′
Tromba	8′						

Stops indented are augmented; their source is indicated by vertical lines. Stops indented and italicized are borrowed from the manuals.

(*a*) Borrowed stops are included by the builders in this total.

(*b*) Resultant; the combination of two tones, of an octave and a twelfth higher than the given pitch, respectively.

(*c*) Although bearing different names, these reeds are of a single set of pipes, and are borrowed from the Solo-organ for the Great as well as for the Pedale.

(*d*) The Great-organ contains an 8-ft. Trumpet in addition to these reeds.

(*e*) The Solo-organ contains also a Tuba Mirabilis, which is not placed in the Swell-box.

(*f*) This stop is an extension downward of the Ophicleïde, from which all but its lowest twelve pipes are borrowed. Four reeds, of 32-, 16-, 8- and 4-ft. pitch, respectively, are thus obtained from a total of 68 pipes, all of which, except the twelve lowest, are borrowed from the Ophicleïde of the Great-organ.

the comparatively rare instances where a stop primarily belonging to the Pedale is borrowed for use upon a manual). This is the first consideration; the second is, whether the manual registers from which the Pedale stops in question are borrowed, are simultaneously in use. If so, it must be realized that the respective Pedale stop will add no notes which would not be equally attainable by coupling the manual stop to the Pedale. If it is necessary that the Pedale stand out independently, we may have to sacrifice to some extent the combination on the manuals, in order that the Pedale stops may present a different quality, or added intensity, as the case may be. We find such an example in the *Final* of the first *Symphonie* by Vierne, where the Pedale must make itself strongly felt against the full power of the manuals. This additional sonority in the Pedale will almost invariably be derived from reeds; but if the reeds are borrowed from the manuals, whence is the added intensity to come? Under such conditions we must deprive the manual combination of the reeds, and of as much more as may be necessary, to permit the domination of the Pedale; even to the extent of leaving the entire Great free to be coupled to the Pedale, during the time that the latter is treated as a solo; the hands playing only upon the Choir with the Swell coupled to it. And obviously the effect will be far from that conceived by the composer.

Although we may not suspect it, it is to the music of Bach that the system of borrowing for the Pedale offers the most serious disadvantage.

The organs of Bach's time, which naturally influenced his composition, as a rule possessed a Pedale practically independent of the manuals; although often not of proportionately adequate strength.[1] If any Pedale coupler

[1] "The organ in the Castle Chapel at Weimar had only two manuals, with eight stops each. Yet the Pedal Organ contained seven stops, one of 32 feet,

at all was provided, there was rarely more than one, and that one not always from the Great manual. Any number of passages in Bach's organ works can be cited to demonstrate the fact that he conceived the Pedale as an independent part, and that the coincidence of notes in Pedale and manual should no more affect the rhythmical figuration than would a similar coincidence on two evenly balanced and separate manuals.

The Toccata in F major immediately occurs to me as an example of the above; if any considerable amount of the manual tone be caused to speak in the Pedale also, through the couplers, the manual figures will suffer; if the Pedale be not independently clear and strong, it will suffer likewise in its turn.

It is particularly relevant to speak of Bach in this connection, because French writers are wont to emphasize the fact that certain features of their organ-building, as well as of their school of organ composition, are directly affected by the organ music of the master. In the opinion of Mr. Schweitzer:

"The best and the sole test of any organ is the organ music of Bach. Let this statement apply to the artistic side of organ construction, and not suggest Bach throwing his wig in the air for very joy over our push-buttons, then sitting down to learn from a modern virtuoso all that may be 'brought out' in his music on a modern organ."

"The mechanical movements of the German organ are hardly adapted to the requirements of Bach's music; the French organ, with its pedals for couplers and ventils, is best suited to the master's works. Cavaillé-Coll, the creator of the French organ, without being particularly inspired by Bach's works, actually realized, so far as mechanism and the control of me-

three of 16, two of 8 and a reed of 4 feet. On such an organ, the many *bravura* pedal passages which abound in the composer's works would sound truly impressive, but on many of the modern emaciated Pedal Organs, these passages sound little less than ridiculous." (A. E. Hull: *Organ Playing.*)

chanical resources are concerned, the organ in which Bach would recognize the instrument of which he dreamed as he wrote his fugues. His only reproach would be the strong predominance of the reeds in the full organ."[1]

And again:

"Since Cavaillé-Coll, the study of Bach has begun."[2]

With regard to the adaptation of French organ music to our instruments, then, the Pedale whose important stops are borrowed from the manuals will present a question demanding serious consideration. The exact extent to which advantage may be taken of the systems of augmentation and borrowing in the case of important stops must be determined in each instance according to circumstances, and in accordance with individual convictions. Briefly, the adoption of either system means a saving of space and cost, which saving may be devoted to the addition of other manual stops, or to the more complete provision of desirable mechanical accessories. Against this must be weighed what I believe to be the loss of independence, sonority and clearness in the Pedale, and of individuality in its various stops; and particularly, in extreme cases, the sacrifice of what should be a degree of power determined by the relationship of the Pedale to the organ as a whole.

I am glad to say that American organ-builders are by no means unanimous in their approbation of these systems; while some employ them to a marked extent, others are accustomed to use them only to a limited degree, if at all; and with great discretion.

M. Mutin thus states his position with regard to the use of the systems of augmentation and borrowing:

[1] *Deutsche und Französische Orgelbaukunst.*
[2] Ch.-M. Widor, in his preface to *L'Orgue de Bach.*

CHARLES MUTIN

"We sometimes make use of manual stops for the *Pédale* such as a *soubasse* taken from a 16′ *bourdon;* a *basse* of 8′, whose first notes are derived from the *flûte harmonique;* a stopped bass of 8′ taken from a *bourdon* of 8′ of the first manual or the *Récit;* but our borrowing never goes farther. Occasionally, when the space for the *Pédale* is very limited, we obtain stops by *dédoublement* [duplication]: the *flûte* of 16′ may serve also for the *flûte* of 8′, by adding an octave at the top. . . . A *Pédale* of six or eight stops may thus really possess only three or four. . . .

CHAPTER XI

Foreign Editions

In the preceding chapter I have considered the general subject of the adaptation of French registration to American organs, assuming that the indications given by the composer [1] have not been translated, and are conceived especially for French instruments.

Of late years some of the principal foreign publishers of organ music have made it their practice to furnish a parallel English translation of the prescribed registration.[2] This has evidently been done for the assistance of the Eng-

[1] Certain composers have prescribed no registration whatever in some of their published works, leaving the choice of stops entirely to the organist. They have not failed, however, carefully to provide all necessary marks of intensity and dynamic effects. Among them are Saint-Saëns, Ropartz, Chausson.

[2] A single publication of one of the best-known French houses furnishes a striking illustration not only of inaccurate translation, but occasionally of extraordinary orthography.

Tirasse Récit	*Voix céleste*
Swell with pedal	Vox angelica
Otez Trompette et Clairon	*Anches sans 16 p.*
Swell Trumputt & Clairon	Reeds 16 f. in.
Le Récit reste fermé	*Boîte fermée*
Swell (schutt box)	Schutt box

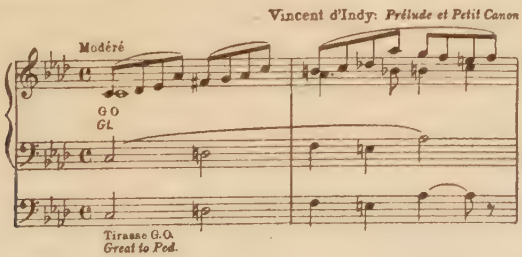
Refrain populaire
Popular soud

lish or American organist who is not familiar with the French language and nomenclature; but it must be admitted that in many instances such translations will prove either impossible of application or totally misleading, if not actually incorrect.[1]

A dictionary of musical terms appears to have been the translator's guide more often than even an elementary knowledge of American or English stop nomenclature, to say nothing of tonal characteristics or mechanical construction; while a schoolboy's extemporaneous translation of Caesar's Commentaries would hardly be more crude than the English construction occasionally encountered. In many cases no attempt is apparent to provide anything but a bare literal translation; which might have been applicable to our organs of thirty years ago, but to-day is utterly unreliable, as has already been shown.

For the purpose of illustration I have selected a few instances of such ill-advised translation, which I append herewith, in the original spelling:

Ex. 41

Récit: Fonds de 8′ (doux)	Swell: Foundations stops
Grand-orgue: Fonds de 8′, Bourdon de 16′, Flûte de 4′, Montre 8′	Great: Foundations stops, Stop. Diapason 16-ft. Open Diapason 8-ft. Flute.
Pédale: Soubasse 16′	Pedal: Subbass 16-ft.

[1] For some years the Englished preface of a standard German edition of Bach's organ works invariably rendered the German *dur* by "sharp" and *moll* by "flat"!

Note that the French qualification *doux*, "soft," has been omitted in the translation. A Stop. Diapason (*sic*) or Bourdon of 16′, although of great importance, is all too rarely found on our Great-organs, and the Diapason used should be a secondary one. "Subbass" follows the line of least resistance in translation, but we do not often find the Pedale Bourdon so designated.

Ex. 42

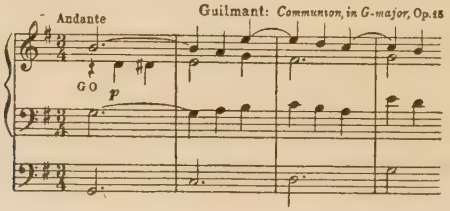
F. de la Tombelle: *Canzonetta*

Récit: Flûte harmonique, Viole de Gambe 8 p.	**Swell: Stopped Diapason 8-ft. Viol di Gamba 8-ft.**
Positif: Jeux doux de 8 p. (Récit accouplé).	**Great: Dulciana Viol di Gamba 8-ft.**
Grand-orgue: Flûte harmonique, Bourdon 8 p.	**Choir: soft 8-ft. (Sw. to Ch.)**
Pédale: Bourdon 16 p.	**Pedal: Foundation stop 16-ft.**

An equivalent of the 8′ *bourdon* is not always present on the Great of our later organs; but a Viol di Gamba (*sic*) is an incomprehensible substitute for a Harmonic Flute.

Ex. 43

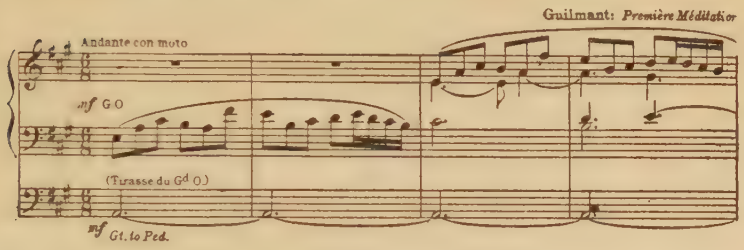
Grand-orgue: Montre, Bourdon, Flûte harmonique et Salicional de 8 p.	**Great: Open Diap., Stop., Diapason, Salicional, Harmonic Flute 8-ft.**



Could such a collection of stops on the Great of our later organs, even if ever found there together, be expected to be *piano* in intensity?

Ex. 44

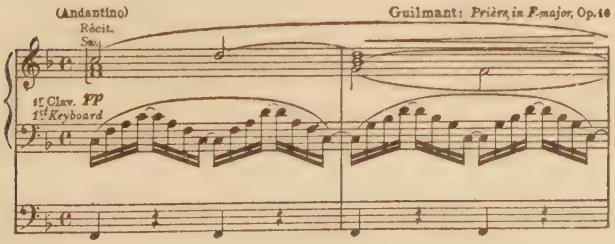
Grand-orgue: Montre, Bourdon, Gambe ou Salicional et Flûte de 8 P.

Great: Open and Stop. Diap. Salicional and 8-ft. Flute

Again the prescribed combination would be much too loud. The Choir-organ should be drawn upon for most of it.

Ex. 45

3e Clavier. (Récit) Voix humaine et Bourdon de 8 P. avec le Tremblant
2e Clavier: Flûte harmonique de 8 et Flûte douce de 4 P.
1er Clavier: Gambe et Bourdon de 8 P.
Pédale: Soubasse de 16 P. et Flûte de 8 P.

3rd Key Board: (Swell) Vox humana and Stop. Diap. 8-ft. with Tremulant
2nd Key Board: Harmonic Flute 8-ft. and soft 4-ft. Flute
1st Key Board: Gamba and Stop. Diap. 8-ft.
Pedal: Double Stop. Diap. 16-ft. and Bass Flute 8-ft.

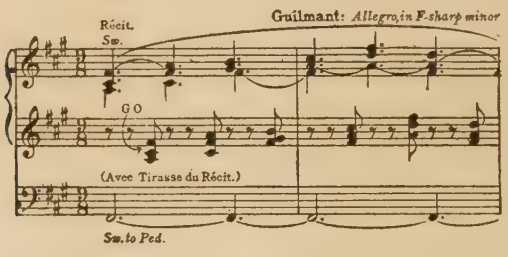


Here is apparent the disadvantage of designating the several keyboards by numbers. The *2e clavier* of the

French organ is the *Positif*, corresponding fairly to our *lowest* manual, or Choir, in character. The translator has failed to take this into account, and as a result we find registration prescribed for the Great and Choir which should be carried out on the Choir and Great, respectively. Obviously a Flute on the Great would be far too heavy, and the string quality called for would probably be entirely lacking, in the desired intensity.

Ex. 46

Récit: Flûte harmonique, Dulciana et Gambe de 8 p.
Grand-orgue: Bourdon et Gambe de 8 P. (Récit accouplé).

Swell: Open Diap. and Keraulophon 8-ft.
Great: Stop. Diap. and Gamba 8-ft. (with Sw. coupled).

Again "Gamba," as the equivalent of *gambe*.

Ex. 47

Guilmant: *Lamentation*

Récit: Flûte traversière et Clarinette de 8 P. . . .
Positif: Cor de nuit et Salicional de 8 P. . . .
Grand-orgue: Positif accouplé. p Jeux de fonds de 8 P. ff Grand-choeur sans mixtures.
Pédale: p Bourdons, Flûtes, Contrebasse, Violoncelle de 32, 16 et 8 p. ff Anches.

Swell: Harmonic Flute and Clarinet (or Oboe)
Great: with Ch. coupled. *p*. 8-ft. *ff* Full without Mixtures
Choir: Stopped Diapason and Salicional 8-ft.
Pedal: *p* 32, 16 and 8 ft. *ff* Reeds

CATHEDRAL, REIMS

GRAND ORGUE

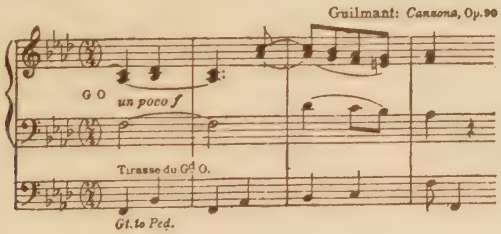
The simple translation here provided furnishes an admirable example of the manner in which all such indications should be given in English; prescribing pitch and intensity, and general color, and leaving the organist to determine the rest for himself.

Ex. 48. **Guilmant: *Offertoire*, in A minor, Op. 90**

Récit: Flûtes de 8 et 4 P.	**Swell: Diapasons, 8-ft.**
Positif: Fonds de 8 P.	**Great: Diapasons 8-ft. Ch. to Gt.**
Grand-orgue: Fonds de 8, Récit accouplé	**Choir: Flutes 8- and 4-ft.**
Pédale: Fonds de 16 et de 8 P.	**Pedal: 16- and 8-ft.**

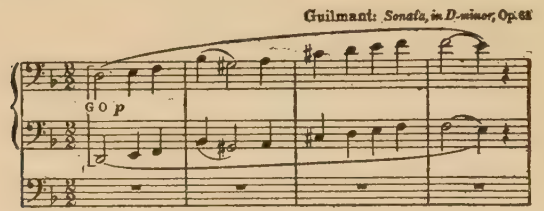
Fonds cannot always with safety be translated by "Diapasons." The substitution of the Choir for the *Récit*, however, in order to obtain open flutes, is most commendable.

Ex. 49

Récit: Flûtes de 8 et de 4 P.	**Swell: Flutes 8- and 4-ft.**
Grand-orgue: Bourdon, Salicional, Gambe de 8 P. Flûte douce de 4 P. Récit accouplé	**Great: Open and Stop. Diapasons**
Pédale: Bourdons de 16 et de 8 P.	**Pedal: Soft 16- and 8-ft. stops**

An incomprehensible translation for the Great-organ. As the Choir is not used at all, it should provide at least some of the stops called for upon the *Grand-orgue;* and in no case should a Great Diapason be used, unless a very light one.

Ex. 50

Récit: Fonds de 8 et 4 P. Trompette (Boîte fermée.)
Positif: Fonds de 8 P., Flûte douce de 4 P. (Trompette et Clairon préparés)
Grand-orgue: p. Fonds de 16, 8 et 4 P. ff Grand choeur. Récit et Positif accouplés au Gd. O.)
Pédale: p Fonds de 16 et 8 P. ff Anches

Swell: 8- and 4-ft. Cornopean (Sw. closed)
Great: *p* 16-, 8- and 4-ft. *ff* full (with Sw. and Ch. Coupled)
Choir: 8-ft. and soft 4-ft. Flute
Pedal: *p* 16- and 8-ft. *ff* Reeds

A *piano* combination of 16′, 8′ and 4′ on the Great is seldom available.

Ex. 50*a*

Récit: Gambe 8. Bourdon 8. Fl. 8. Anches préparées
Positif: Bourdon 8. Flûte 8. Montre 8. Anches preparées sans 16 P.
G. O.: Flûte 8. Bourdon 8. Anches preparées
Ped.: Octave 8 et 16. Anches préparées
Acc't. P. au G. O. Tirasses

Swell: Gamba 8 Stop diap. 8 Fl. 8 Reeds prepared
Choir: Stop diap. 8 Flute 8. Open diap Reeds prepared
Great: Flute 8 Stop diap. 8 Reeds prepared
Pedal: Octave 8 et 16 Reeds prepared
Great Choir Coupled Pedal with Great

No translation could be more faithfully literal, even if it is not entirely complete. The English registration is an excellent example of strictly literal translation; excepting that the designation *sans 16 P.* appears only in the French, and *Tirasses* may include other pedale couplers in addition to that of the Great. Yet such a translation

is of less practical assistance than one giving more general equivalents would be, while the designation *Anches préparées*, although faithfully rendered "Reeds prepared," is quite superfluous. On the American organ reeds are rarely prepared in advance, unless on an adjustable combination; and their designation is thus enigmatic to those unfamiliar with the French construction which demands it.

I need not refer at length to directions for the addition or withdrawal of couplers, reeds, *et cet.* Such directions are nearly always literally translated, and not infrequently are quite useless. To add a manual coupler at the precise moment indicated may be impossible unless the coupler is operated by a pedal, as in France; and even if practicable, it is by no means certain that the manual thereby added would add materially to the strength of the ensemble. The call so frequently made for the addition of the Choir reeds prior to those of the Great can seldom be met in our organs; and so on. Often it will be necessary to recast the entire registration of a work in order to substitute our combination movements for the coupler and ventil system of the French; in Chapter IX, I have already considered such a contingency.

CHAPTER XII

American Editions

Much of the older French repertoire has been republished in the United States at one time or another, particularly the earlier works of Guilmant; and naturally with the French designations translated into English, the original French not being given at all,—or else with the entire registration adapted anew to American organs. The faults previously mentioned as existing in the published translations provided by French editors are not so often found in these American reprints, since the latter have usually been edited by American organists, familiar with the American instruments of their time.

It is reasonable to assume that these revisers would be less satisfied with merely literal translation than a French editor, for although the former might not always be possessed of a knowledge of the finer details of French construction and methods of voicing, they would surely be unlikely to prescribe any registration for an American organ which would generally be impracticable or difficult of realization upon the average instrument.

But before we accept such indications of registration at their face value we must know approximately the period in which the American editor prepared his adaptation. Numerous French compositions, much used in this country and adapted to American organs by one of our best-known organists whose memory is most justly honored, can be played upon our organs of the older type practically as indicated, since the adaptations were made and pub-

lished some forty years ago. As in the case of the Pedale of that time, whose similarity to that of French instruments I pointed out in Chapter X, the composition of the manual specifications and the voicing of their stops followed far more closely the French type than do those features in some of our later instruments. Indeed, it was then possible to translate *Grand-orgue: flûte, gambe 8′* by our time-honored "Great Doppel Flute (*sic*) and Gamba"; but this is no longer the case. In those days a Pedale Flute of 8′ was not infrequently called for; but the Flute of to-day, so often derived by augmentation from the Pedale Diapason (*sic*), is a very different and much less agreeable affair. Similarly, "Pedale Bourdon 16′ and Violoncello 8′" were often designated; not because a string stop of 8-ft. was really desired, but because on many organs a Violoncello was the only 8-ft. flue stop in the Pedale. To-day, the quality of a Pedale Violoncello must be carefully scrutinized,[1] as is the case with string stops in general, — particularly Gambas, — before it may be used merely because prescribed. Likewise on the manuals great discretion must be used in the substitution of a Grossflöte for a Doppelflöte or Clarabella; as already noted in a previous chapter.

It is to be regretted that such editions are still being published with the registration intended for, and indeed often skilfully adapted to the organs of forty years ago; it would not be difficult to have them revised by competent editors, and the designations made to conform with the simplified system suggested in the previous chapter. More responsibility would then be placed upon the performer, and to his distinct advantage.

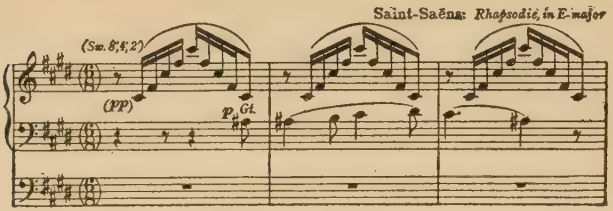
The following examples, taken from adaptations of

[1] An organ recently constructed presents an instance of the Pedale Violoncello being a Voix Célestes of two ranks, borrowed from one of the manuals.

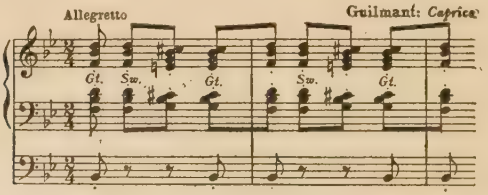
French works published in this country, will suffice to illustrate difficulties which will be encountered. For the sake of comparison, I will give also the original registration, although as a rule it does not appear in the American editions:

Ex. 51

1er Clavier: 8 P. piano.

Great: Gamba and Double Flute

Ex. 52

Clavier III: (Récit) Bourdon de 8 et Trompette (ou Basson-Hautbois)
Clavier II: Salicional de 8
Clavier I: Bourdon et Flûte harmonique de 8
Pédale: Bourdons de 16 et 8 Flûte de 8 P. (N. B. Les jeux des Claviers I et II doivent être d'égale force.)

Swell: Bourdon 16-ft. and Flute 4-ft.
Great: Gamba 8-ft. and St. Diap. or Flute, 8-ft.
Choir: Diapasons and Harmonic Flute 8 or 4-ft.
Pedal: 16 and 8-ft.

The direction of the original edition regarding the relative strength of two of the manuals is most important, and is not found in the reprint. In the original the alternation of manuals is between the first and second, or *Grand-orgue* and *Positif*, and the dynamic mark in the first

measure is *p*. In the American edition no expression mark is given, and the alternation is between Great and Swell, with a registration radically different from the original.

Ex. 53

Guilmant: *Grand Chœur en Ré Majeur.* (*Alla Haendel*)

Récit: Jeux de fond et jeux d'anches de 8 P.	Swell: Diapasons and Hautboy Choir: Melodia and Flute 4-ft.

In the Trio of this piece, the modern French edition uses the *Récit* exclusively. Possibly the original one did not, but the alternation between Swell and Choir in the American edition is extremely awkward. The words of the title, "Alla Haendel," are also omitted in the latter edition.[1]

Ex. 54

Guilmant: *Lamentation*

Récit: Voix humaine, Flûte harmonique de 8 et Flûte douce de 4 P. avec le Tremblant *Clavier de Bombarde: Flûte harmonique de 8 P.* *Grand-orgue: Montre, Bourdon Gambe ou Salicional et Flûte de 8 P.* *Positif: Gambe ou Salicional avec Bourdon de 8 P.* *Pedale: mf Contrebasses, Flûtes et Bourdons de 16 et 8 p., Bourdon de 16 et Flûte de 8 P.*	Solo Manual: Harmonic Flute 8-ft. (Rohr Flute — Philomela) Swell: Vox Humana, St. Diap. 8-ft. and Flute 4-ft., with Tremulant Great: Diapasons and 8-ft. Flute Choir: Gamba (Keraulophon) Viol d'Amour. (Viol da Gamba) and Mel. (Gedackt) Pedal: Bourdon 16-ft. and Violoncello 8-ft. (Contra-Bass and Gt. coupler *ad lib.*)

A modern Philomela would hardly be an acceptable substitute for a Harmonic Flute, especially in view of the context; while the mark *mf* in the original edition would probably be considerably overstepped if Great Diapasons

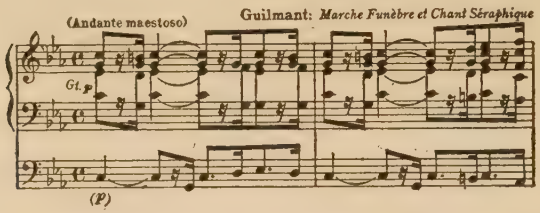
[1] The translation of *Grand-Chœur* by *Grand Chorus*, as applied to the title of a composition, is incorrect. In this connection *Grand-Chœur* signifies "full organ"; a composition bearing this designation is one to be played with the full strength of the instrument. Similarly, *Grand-Chœur* applied to the registration of one or more manuals is synonymous with "full."

were to be used,[1] to say nothing of the possible addition of a Gamba.

Ex. 55

Récit: Flûte harmonique, Gambe et de 8 P. et Trompette harmonique
Grand-orgue: p Bourdons de 16 et 8 P. Salicional. ff Grand-Chœur
Pédale: Flûtes et Bourdons de 16 et 8 P. (ff) Anches

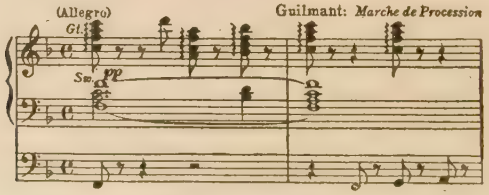
Swell: Diapasons and Reeds (Trumpet and Hautboy)
Great: *p* Gamba and 8-ft. Flutes *ff* Full Organ
Choir: Open Diapason and Flute 4-ft.
Pedal: Bourdon and Diapason 16-ft. and 8-ft. (Coupler Ped. & Gt. *ad lib.* *ff* Full)



The American registration answers no longer; incidentally it shows the value of a Bourdon of 16′ on the Great.

Ex. 56

Récit: Bourdon, Voix humaine, Gambe et Voix céleste de 8 P. avec le Tremblant
Positif: Flûte et Salicional de 8 P.
Grand-orgue: Bourdon de 16 P. Récit accouplé en unison et 8ve grave (ad libitum).
Pédale: Bourdon de 16, Bourdon de 8 (ad lib.) Flûte de 8 Corni dolce ou Flûte de 4 P.

Swell: Vox Humana, St. Dia. & Harmonica, 8-ft. with Tremulant
Great: Bourdon 16-ft. (Double Diapason) with unison and super-octave Swell couplers (In the absence of the latter coupler, add 4-ft. Flute)
Choir: Melodia and Dulciana or Salicional
Pedal: Bourdon 16-ft. Violoncello 8-ft. and Principal 4-ft.

[1] This fault of translation is especially noticeable in American editions of the various pieces comprising Guilmant's *L'Orgue Pratique.*

The substitution of a 16-ft. Diapason for a Bourdon is here unthinkable; and the use of a super-octave coupler instead of the one at sub-octaves, prescribed in the foreign edition, may have been an error. Again, a Principal of 4-ft. in the Pedale can hardly be an acceptable substitute for a *Corni dolce* (why so often in the plural?) or a 4′ *flute*.

Further examples might be cited *ad infinitum*, but they would be superfluous. I have made clear the necessity of every organist's justifying his final choice of registration by his own conviction, not accepting without question printed indications apparently made by the composer; literal obedience to which upon many of our modern instruments will most certainly lead to an effect quite different from that conceived and desired by the composer himself.

Little would be gained by the foregoing criticism of methods of translation from the French, were I not to offer some constructive system of designation which would be neither misleading nor ambiguous. And it is not difficult to define such a system.

Of the three points in which stops differ from one another, viz.: in pitch, in intensity, and in quality or tone-color, — only the first two can be prescribed under a practically universal standard of nomenclature. Designations of pitch are unfailingly explicit. Indications of intensity, expressed by the usual Italian abbreviations from *ppp* to *fff* are comparatively definite. It is true that to a certain extent the latter must be interpreted from the standpoint of the size of each instrument individually, for the half-dozen stops which constitute the entire Great division

It is particularly to be regretted, since these pieces serve admirably for instruction in the less advanced grades, where the pupil is naturally lacking in experience and all the more likely to follow printed indications of registration.

of a small organ, and thus represent its *fortissimo*, might be relatively no stronger than *mezzo-forte* in an organ of considerably larger proportions. Or, again, a stop sounding with a certain intensity in a small church and necessarily heard at close range, might conceivably become quite a different affair if placed in a large organ at the west end of a Gothic nave some three or four hundred feet in length. But, generally speaking, the dynamic mark will be a safe guide; and it is certainly an indispensable one, although sadly missed in many published adaptations, not to mention original editions.

As to the third property, that of quality, no attempt should be made to indicate any but the general tone-color desired, except in the case of solo stops. Not only is any other course precluded by the almost hopeless lack of anything approaching uniformity among our organ builders, but the opportunity for variation in both intensity and color is ever present, even among stops bearing identically the same name.

Finally, the designation of the several manuals as First, Second, Third, or as I, II, III, is entirely ambiguous. In the French organ a given order of the keyboards is more uniformly observed, although even there the *Bombarde* or *Solo* is sometimes placed above the *Grand-orgue*, sometimes above the *Récit*. In the absence of any standard who can define our own sequence? Is the Great the first manual because the chief one? If so, is the Choir or the Swell the second? Or, is the Choir the first because the lowest, in position, the Great then being second and the Swell, third? Until a universally adopted custom fixes a standard sequence of manuals, it will be best entirely to avoid the use of any such numerical designation whatever.[1]

[1] See Exs. 45 and 52. Also Guilmant: *Cantilène-Pastorale.*

CATHEDRAL. REIMS

ORGUE DE CHŒUR

APPENDIX

INDEX OF SPECIFICATIONS

		Builder	Manuals	Speaking Stops
I.	Église de Saint-Sulpice (Paris)	Cavaillé-Coll	5	100
II.	Cathédrale de Notre-Dame (Paris)	"	5	86
III.	Église du Sacré-Cœur (Paris)	Mutin	4	74
IV.	Cathédrale de Sainte-Cécile (Albi)	Puget	4	73
V.	Église de Saint-Eustache (Paris)	Merklin	4	72
VI.	Cathédrale de Saint-Denis (Paris)	Cavaillé-Coll	3[1]	69
VII.	Palais du Trocadéro (Paris)	"	4	66
VIII.	Église de Saint-Ouen (Rouen)	"	4	64
IX.	Église de La Madeleine (Paris)	"	4	48
X.	Église de Sainte-Clothilde (Paris)	"	3	46
XI.	Conservatoire Royale de Musique (Brussels)	"	3	48
XII.	Cathédrale de Notre-Dame (Chartres)	Abbey	3	39
XIII.	Cathédrale de Saint-Vincent (Saint-Malo)	Debierre	3	38
XIV.	Residence of the late Alexandre Guilmant (Meudon-sur-Seine, Paris)	Cavaillé-Coll	3	28
XV.	Église de Saint-Godard (Rouen)	"	2	30
XVI.	Orgue de Chœur, Église du Sacré-Cœur (Paris)	Mutin	2	20
XVII.	Orgue de Chœur (minimum type)		2	11

[1] Three manuals, controlling four manual divisions.

APPENDIX

The following specifications have been selected both as representative of the principal organ builders of France, and as illustrating, in important organs of various sizes, the characteristics of tonal composition and mechanical construction previously set forth in this volume. Several of the specifications present a special interest, because of their undoubted influence upon the registration prescribed in the published organ works of some of the most eminent French organists and composers; among them Ch.-M. Widor (I), Louis Vierne (II), Alexandre Guilmant (VII), Camille Saint-Saëns (IX) and César Franck (X).

From most of the specifications the list of mechanical resources and accessories has been omitted, being added only when of special interest.

Manual divisions inclosed in a separate swell-box are marked with an asterisk.

The stops placed upon a subdivision of a manual or pedale chest, whose speech is controlled by the several *pédales d'appel* or *pédales d'anches*, are in some cases entered separately under the heading *Jeux de combinaison*. Such stops usually are reeds; yet mixtures and simple mutations, and even certain foundation stops, are not infrequently added. The function of these pedals, sometimes called *pédales de combinaison*, should not be confused with that of the *registres de combinaison*, whose operation is described in Chapter VI.

SPECIFICATION I

ÉGLISE DE SAINT-SULPICE (Paris)

(Organ reconstructed by Cavaillé-Coll in 1862)

(M. Ch.-M. Widor has been organist since 1871)

GRAND-CHŒUR		*GRAND-ORGUE*		*POSITIF*	
Octave	4′	*Principal*	16′	*Violon-basse*	16′
Doublette	2′	*Montre*	16′	*Quintaton*	16′
Grosse Fourniture	*iv-r.*	*Bourdon*	16′	*Quintaton*	8′
Grosse Cymbale	*vi-r.*	*Flûte conique*	16′	*Flûte traversière*	8′
Plein-jeu	*iv-r.*	*Montre*	8′	*Salicional*	8′
Cornet	*v-r.*	*Diapason*	8′	*Gambe*	8′
Bombarde	16′	*Salicional*	8′	*Unda maris*	8′
1re Trompette	8′	*Flûte harmonique*	8′	*Flûte octaviante*	4′
2me Trompette	8′	*Flûte traversière*	8′	*Flûte douce*	4′
Clairon	4′	*Flûte à pavillon*	8′	*Dulciane*	4′
Clairon-doublette	2′	*Bourdon*	8′		
Basson	16′	*Grosse quinte*	5⅓′	*JEUX DE COMBINAISON*	
Basson	8′	*Prestant*	4′	*Quinte*	2⅔′
				Doublette	2′
				Tierce	1⅗′
				Larigot	1⅓′
				Piccolo	1′
				Plein-jeu	*iii* to *vi-r.*
				Basson	16′
				Baryton	8′
				Trompette	8′
				Clairon	4′

SPECIFICATION I — *Continued*

ÉGLISE DE SAINT-SULPICE (Paris)

RÉCIT *		*SOLO*		*PÉDALE*	
Quintaton	16′	*Bourdon*	16′	*Principal-basse*	32′
Diapason	8′	*Flûte conique*	16′	*Contrebasse*	16′
Violoncelle	8′	*Principal*	8′	*Soubasse*	16′
Bourdon	8′	*Flûte harmonique*	8′	*Flûte*	8′
Voix céleste	8′	*Viola da gamba*	8′	*Violoncelle*	8′
Flûte harmonique	8′	*Bourdon*	8′	*Flûte*	4′
Flûte octaviante	4′	*Violoncelle*	8′		
Prestant	4′	*Kéraulophon*	8′	*JEUX DE COMBINAISON*	
Doublette	2′	*Flûte octaviante*	4′	*Contre Bombarde*	32′
Basson-Hautbois	8′	*Prestant*	4′	*Bombarde*	16′
Cromorne	8′			*Ophicléide*	16′
Voix humaine	8′	*JEUX DE COMBINAISON*		*Basson*	16′
		Grosse quinte	$5\frac{1}{3}$′	*Trompette*	8′
JEUX DE COMBINAISON		*Octave*	4′	*Clairon*	4′
Dulciana	4′	*Grosse tierce*	$3\frac{1}{5}$′		
Nazard	$2\frac{2}{3}$′	*Quinte*	$2\frac{2}{3}$′		
Octavin	2′	*Septième*	$2\frac{4}{7}$′		
Fourniture	iv-r.	*Octavin*	2′		
Cymbale	v-r.	*Cornet*	v-r.		
Cornet	v-r.	*Bombarde*	16′		
Bombarde	16′	*Trompette*	8′		
Trompette	8′	*Clairon*	4′		
Clairon	4′	*Trompette harmonique (en chamade)*	8′		

* In swell-box.

SPECIFICATION II

ÉGLISE MÉTROPOLITAINE (CATHÉDRALE) DE NOTRE-DAME (Paris)

(Organ built by Cavaillé-Coll, 1868; restored in 1894. *Récit* altered in 1899)

(The present organist is M. Louis Vierne)

GRAND-CHŒUR		*GRAND-ORGUE*		*BOMBARDE*	
Principal	8′	*Violon-basse*	16′	*Principal-basse*	16′
Bourdon	8′	*Bourdon*	16′	*Sous-basse*	16′
Prestant	4′	*Montre*	8′	*Principal*	8′
Quinte	$2\frac{2}{3}$′	*Flûte harmonique*	8′	*Flûte harmonique*	8′
Doublette	2′	*Viole de gambe*	8′	*Grosse quinte*	$5\frac{1}{3}$′
Tierce	$1\frac{3}{5}$′	*Bourdon*	8′	*Octave*	4′
Larigot	$1\frac{1}{3}$′	*Prestant*	4′	*Grosse tierce*	$3\frac{1}{5}$′
Septième	$1\frac{1}{7}$′	*Octave*	4′	*Quinte*	$2\frac{2}{3}$′
Piccolo	1′	*Doublette*	2′	*Septième*	$2\frac{2}{7}$′
Tuba magna	16′	*Fourniture*	*ii* to *v-r.*	*Doublette*	2′
Trompette	8′	*Cymbale*	*ii* to *v-r.*	*Cornet*	*ii* to *v-r.*
Clairon	4′	*Basson*	16′	*Bombarde*	16′
		Basson-Hautbois	8′	*Trompette*	8′
		Clairon	4′	*Clairon*	4′

SPECIFICATION II — *Continued*

ÉGLISE MÉTROPOLITAINE (CATHÉDRALE) DE NOTRE-DAME (Paris)

POSITIF		*RÉCIT* *		*PÉDALE*	
Montre	*16′*	*Quintaton*	*16′*	*Principal-basse*	*32′*
Bourdon	*16′*	*Diapason*	*8′*	*Contrebasse*	*16′*
Flûte harmonique	*8′*	*Viole de gambe*	*8′*	*Soubasse*	*16′*
Salicional	*8′*	*Voix céleste*	*8′*	*Grosse quinte*	$10\frac{2}{3}'$
Bourdon	*8′*	*Flûte harmonique*	*4′*	*Flûte*	*8′*
Unda maris	*8′*	*Flûte octaviante*	*4′*	*Violoncelle*	*8′*
Prestant	*4′*	*Prestant*	*4′*	*Grosse tierce*	$6\frac{2}{5}'$
Flûte douce	*4′*	*Quinte*	$2\frac{2}{3}'$	*Quinte*	$5\frac{1}{3}'$
Doublette	*2′*	*Octavin*	*2′*	*Septième*	$4\frac{4}{7}'$
Piccolo	*1′*	*Plein-jeu* *iv* to *vii-r.*		*Octave*	*4′*
Plein-jeu *iii* to *vi-r.*		*Cornet* *iii* to *v-r.*		*Contre Bombarde*	*32′*
Clarinette-basse	*16′*	*Bombarde*	*16′*	*Bombarde*	*16′*
Cromorne	*8′*	*Trompette*	*8′*	*Basson*	*16′*
Clarinette aiguë	*4′*	*Basson-Hautbois*	*8′*	*Trompette*	*8′*
		Voix humaine	*8′*	*Basson*	*8′*
		Clairon	*4′*	*Clairon*	*4′*

SPECIFICATION III

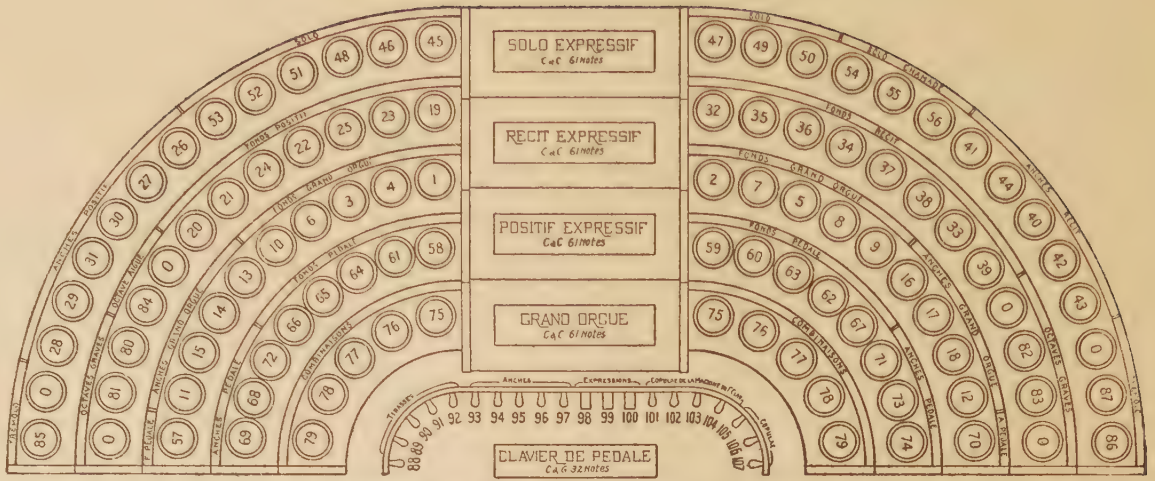
BASILIQUE DU SACRÉ-CŒUR (Montmartre, Paris)

(Built by Charles Mutin of Paris, successor to A. Cavaillé-Coll)

(This organ was installed in its present location after having served for several years as a model in M. Mutin's factory. It is one of the most recently constructed of all the important organs of France, and thus possesses a peculiar interest.)

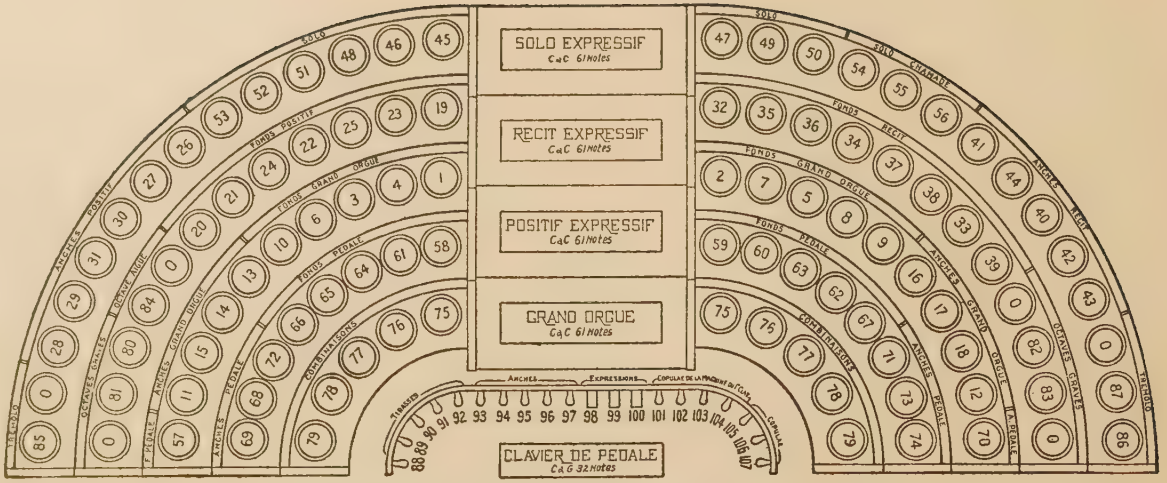
Compass of Manuals, *C* to *c4* Compass of Pedale, *C* to *g1*

GRAND-ORGUE		*POSITIF **		*RÉCIT **		*SOLO **		*PÉDALE*	
1 *Montre*	16′	19 *Quintaton*	16′	32 *Bourdon*	16′	45 *Bourdon*	16′	57 *Flûte*	32′
2 *Gambe*	16′	20 *Principal*	8′	33 *Diapason*	8′	46 *Diapason*	8′	58 *Soubasse*	32′
3 *Bourdon*	16′	21 *Salicional*	8′	34 *Flûte traversière*	8′	47 *Flûte harmonique*	8′	59 *Flûte*	16′
4 *Montre*	8′	22 *Flûte harmonique*	8′	35 *Bourdon*	8′	48 *Viole de gambe*	8′	60 *Violon-basse*	16′
5 *Flûte harmonique*	8′	23 *Cor de nuit*	8′	36 *Viole de gambe*	8′	49 *Flûte octaviante*	4′	61 *Soubasse*	16′
6 *Bourdon*	8′	24 *Principal*	4′	37 *Voix céleste*	8′	50 *Octavin*	2′	62 *Flûte*	8′
7 *Salicional*	8′	25 *Flûte douce*	4′	38 *Flûte octaviante*	8′	51 *Grand Cornet*	viii-r.	63 *Violoncelle*	8′
8 *Violon*	8′	*JEUX DE COMBINAISON*		39 *Basson-Hautbois*	8′	52 *Trompette*	8′	64 *Bourdon*	8′
9 *Prestant*	4′	26 *Octavin*	2′	*JEUX DE COMBINAISON*		53 *Musette*	8′	65 *Quinte*	$10\frac{2}{3}$′
10 *Flûte harmonique*	4′	27 *Carillon*	iii-r.	40 *Octavin*	2′	*JEUX DE COMBINAISON*		66 *Quinte*	$5\frac{1}{3}$′
JEUX DE COMBINAISON		28 *Trompette*	8′	41 *Plein-jeu*	v-r.	54 *Tuba magna (en chamade)*	16′	67 *Corno dolce*	4′
11 *Nasard*	$2\frac{2}{3}$′	29 *Basson*	8′	42 *Basson*	16′	55 *Tuba mirabilis (en chamade)*	8′	*JEUX DE COMBINAISON*	
12 *Doublette*	2′	30 *Cormorne*	8′	43 *Trompette harmonique*	8′	56 *Cor harmonique (en chamade)*	4′	68 *Tierce*	$6\frac{2}{5}$′
13 *Cornet*	v-r.	31 *Voix humaine*	8′	44 *Clairon harmonique*	4′			69 *Septième*	$4\frac{4}{7}$′
14 *Fourniture*	iv-r.							70 *Bombarde*	32′
15 *Cymbale*	iii-r.							71 *Bombarde*	16′
16 *Bombarde*	16′							72 *Basson*	16′
17 *Trompette*	8′							73 *Trompette*	8′
18 *Clairon*	4′							74 *Clairon*	4′



REGISTER-PLAN OF THE ORGAN CONSOLE

Basilique du Sacré-Cœur, Paris



REGISTER–PLAN OF THE ORGAN CONSOLE

Basilique du Sacré-Cœur, Paris

MECHANICAL ACCESSORIES

Registers

75 *2 Registres de combinaison PÉDALE*
76 *2 Registres de combinaison GRAND–ORGUE*
77 *2 Registres de combinaison POSITIF*
78 *2 Registres de combinaison RÉCIT*
79 *2 Registres de combinaison SOLO*

Sub-octave couplers to *GRAND–ORGUE*

80 *GRAND–ORGUE*
81 *POSITIF*
82 *RÉCIT*
83 *SOLO*
84 *Octave aiguë : RÉCIT* to *PÉDALE*

Tremulants

85 *POSITIF*
86 *RÉCIT*
87 *SOLO*

Pedals

88 *Fonds Pédale* (Pedale *fonds* to pneumatics)

Tirasses : (Pedale couplers)

89 *GRAND–ORGUE*
90 *POSITIF*
91 *RÉCIT*
92 *SOLO*

Appels des anches (wind to reeds)

93 *PÉDALE*
94 *GRAND–ORGUE*
95 *POSITIF*
96 *RÉCIT*
97 *SOLO*

Expression (Swell-pedals)

98 *POSITIF*
99 *RÉCIT*
100 *SOLO*

Accouplements (manual couplers)

101 *GRAND–ORGUE* (Great to pneumatics)
102 *POSITIF* to *GRAND–ORGUE*
103 *RÉCIT* to *GRAND–ORGUE*
104 *SOLO* to *GRAND–ORGUE*
105 *RÉCIT* to *POSITIF*
106 *SOLO* to *POSITIF*
107 *SOLO* to *RÉCIT*

SPECIFICATION IV

CATHÉDRALE DE SAINTE-CÉCILE (Albi, Tarn)

(Built by Puget of Toulouse, 1904. Tubular-pneumatic action.)

GRAND-ORGUE		*POSITIF**		*RÉCIT**		*ÉCHO**		*PÉDALE*	
Montre	16′	*Soubasse*	16′	*Quintaton*	16′	*Clarabella*	8′	*Quintaton*	32′
Principal	16′	*Flûte harmonique*	8′	*Flûte d'orchestre*	8′	*Gemshorn*	8′	*Contrebasse*	16′
Bourdon	16′	*Principal*	8′	*Cor de nuit*	8′	*Bourdon*	8′	*Flûte*	16′
Montre	8′	*Violon*	8′	*Viole de gambe*	8′	*Kéraulophone*	8′	*Soubasse*	16′
Diapason	8′	*Unda maris*	8′	*Voix célestes*	8′	*Suavial*	8′	*Flûte*	8′
Flûte	8′	*Salicet*	4′	*Dulciana*	4′	*Flûte douce*	4′	*Violoncelle*	8′
Gambe	8′	*Nazard*	$2\frac{2}{3}$′	*Flûte octaviante*	4′	*Gambe*	4′	*Basse*	8′
Salicional	8′	*Flageolet*	2′	*Octavin*	2′	*Piffaro*	4′	*Octave*	8′
Bourdon	8′	*Tierce*	$1\frac{3}{5}$′	*Carillon*	*iv-r.*	*Trompette*	8′	*Contre Bombarde*	32′
Prestant	4′	*Plein-jeu*	*iii* to *vi-r.*	*Cor anglais*	16′	*Euphone*	8′	*Bombarde*	16′
Gemshorn	4′	*Cornet*	*v-r.*	*Trompette harmonique*	8′	*Crumhorn*	8′	*Trompette*	8′
Octave	4′	*Tuba magna*	16′	*Basson-Hautbois*	8′			*Clairon*	4′
Quint	$2\frac{2}{3}$′	*Trompette*	8′	*Voix humaine*	8′				
Doublette	2′	*Clarinette*	8′	*Clairon*	4′				
Fourniture	*iii* to *v-r.*	*Baryphone*	8′						
Grand Cornet	*v-r.*	*Clairon harmonique*	4′						
Bombarde	16′								
1ère Trompette	8′								
2me Trompette	8′								
Clairon	4′								

SPECIFICATION V

ÉGLISE DE SAINT-EUSTACHE (Paris)

(Organ rebuilt in 1879 by Joseph Merklin of Paris)

(Édouard Batiste was organist of Saint-Eustache from 1854 to 1876. The present organist is M. Joseph Bonnet.)

GRAND-ORGUE		*POSITIF*		*RÉCIT* *		*BOMBARDE*		*PÉDALE*	
Montre	16′	*Bourdon*	16′	*Bourdon*	16′	*Bourdon*	16′	*Principal*	32′
Montre	8′	*Montre*	8′	*Principal*	8′	*Gambe*	16′	*Flûte*	16′
Flûte à pavillon	8′	*Flûte harmonique*	8′	*Flûte harmonique*	8′	*Gambe*	8′	*Contrebasse*	16′
Flûte harmonique	8′	*Bourdon*	8′	*Viole de gambe*	8′	*Salicional*	8′	*Soubasse*	16′
Viole de gambe	8′	*Kéraulophône*	8′	*Bourdon*	8′	*Quintaton*	8′	*Quinte*	$10\frac{2}{3}$′
Bourdon	8′	*Flûte octaviante*	4′	*Voix céleste*	8′	*Dulciana*	4′	*Flûte*	8′
Gemshorn	8′	*Fugara*	4′	*Flûte octaviante*	4′	*Cornet (16′ series)*		*Violoncelle*	8′
Prestant	4′	*Doublette*	2′	*Prestant*	4′	*Bombarde*	16′	*Bourdon*	8′
Flûte douce	4′	*Jeu de clochette*	1′	*Flageolet*	2′	*Trompette*	8′	*Flûte*	4′
Quinte	$2\frac{2}{3}$′	*Plein-jeu*		*Piccolo*	1′	*Cor anglais*	8′	*Bombarde*	32′
Doublette	2′	*Clarinette*	16′	*Cornet*		*Clairon*	4′	*Bombarde*	16′
Fourniture		*Cromorne*	8′	*Posaune*	16′			*Basson*	16′
Cornet		*Trompette*	8′	*Trompette*	8′			*Basson*	8′
Trompette	8′	*Clairon*	4′	*Clairon*	4′			*Trompette*	8′
Clarinette	8′			*Basson-Hautbois*	8′			*Clairon*	4′
Clairon	4′			*Voix humaine*	8′				

SPECIFICATION VI

CATHÉDRALE DE SAINT-DENIS (Paris)

(Organ built in 1841 by A. Cavaillé-Coll)

Compass of Manuals,[1] *C* to *f3* Compass of the Pedale,[2] *FF* to *f*

POSITIF		*GRAND-ORGUE*		*BOMBARDE*	
Bourdon	16′	*Montre*	32′[3]	*Bourdon*	16′
Bourdon	8′	*Montre*	16′	*Bourdon*	8′
Salicional	8′	*Bourdon*	16′	*Flûte*	8′
Prestant	4′	*Montre*	8′	*Prestant*	4′
Flûte	4′	*Viole*	8′	*Nasard* or *Quinte*	$2\frac{2}{3}$′
Nasard or *Quinte*	$2\frac{2}{3}$′	*Bourdon*	8′	*Doublette*	2′
Doublette	2′	*Flûte traversière harmonique*	8′	*Grand Cornet*	*vii-r.*
Tierce	$1\frac{3}{5}$′	*Flûte octaviante harmonique*	4′	*Bombarde*	16′
Cymbale	*iv-r.*	*Prestant*	4′	*1ère Trompette de bombarde*	8′
Fourniture	*iv-r.*	*Nasard* or *Quinte*	$2\frac{2}{3}$′	*2me Trompette harmonique*	8′
Flûte harmonique	8′	*Doublette*	2′	*1er Clairon harmonique*	4′
Flûte octaviante	4′	*Grosse Fourniture*	*iv-r.*	*2me Clairon octaviant*	4′
Flageolet harmonique	2′	*Grosse Cymbale*	*iv-r.*		
Trompette harmonique	8′	*Fourniture*	*iv-r.*		
Cor d'harmonie et Hautbois	8′	*Cymbale*	*iv-r.*		
Cromorne	8′	*1ère Trompette harmonique*	8′		
Clairon octaviant	4′	*2me Trompette harmonique*	8′		
		Basson et Cor Anglais	8′		
		Clairon octaviant	8′[4]		
		Cornet à pavillon	8′		

RÉCIT *		*PÉDALE*		PEDAL MOVEMENTS
Bourdon	8′	*Flûte ouverte*	32′ [5]	1. *Expression* (swell-pedal) *Récit-Écho*
Flûte harmonique	8′	*Flûte ouverte*	16′	2. *Récit au Grand-orgue*
Flûte octaviante harmonique	4′	*Flûte ouverte*	8′	3. *Bombarde au Grand-orgue*
Octavin harmonique	2′	*Flûte ouverte*	4′	4. *Grand-orgue* (Great to Pneumatics)
Quinte		*Gros Nasard* or *Quinte*	5⅓′	5. *Positif au Grand-orgue* (*Fonds*)
Trompette harmonique	8′	*Basse-contre*	16′	6. *Positif au Grand-orgue* (*Anches*, treble)
Clairon harmonique	4′	*Basson*	8′	7. *Positif au Grand-orgue* (*Anches*, bass)
Voix humaine harmonique	8′	*Bombarde*	16′	8. *Tirasse* (all manuals to Pedale)
		1ère Trompette	8′	9. *Octaves graves* (sub-octaves on all manuals)
		2me Trompette	8′	
		1er Clairon	4′	
		2me Clairon	4′	

This organ possesses special interest, not only as the first important work of its builder, but also because it was the first instrument to be equipped with tracker-pneumatic action, making possible the introduction of increased wind-pressures, and thereby of harmonic pipes.

It is interesting to note the marked advance over this organ, in point of tonal balance and variety, demonstrated by the organ of Saint-Sulpice, reconstructed by the same builder twenty-one years later. (See Specification 1.)

[1] Although four manual divisions are noted in the specification, the organ contained but three manual key-boards; the stops of the *Bombarde* being played from the *Grand-orgue*. The order of the key-boards thus followed our own, the *Positif* being placed at the bottom, then the *Grand-orgue*, and the *Récit* above the latter. As we see from the specification of the organ in the Church of the Madeleine, this arrangement was soon replaced by that in use at the present time.

[2] This downward extension of the *Pédale* compass was not unusual at the time: see p. 16. Excepting the *flûte* of 32′, all the stops in the *Pédale* were complete in compass; thus the lowest pipe of the 16-ft. stops was actually 24 ft. in length; that of the 8-ft. stops 12 ft., and so on.

[3] This stop began at the second octave.

[4] The pitch here given follows the original specification, but is undoubtedly an error. This stop is always of 4-ft. pitch.

[5] The longest pipe of this stop was *C*, of 32-ft. From *C* down to *FF* the pipes of the octave above were utilized.

SPECIFICATION VII

CONCERT ORGAN IN THE SALLE DES FÊTES, PALAIS DU TROCADÉRO (Paris)

(This organ was originally built by Cavaillé-Coll for a new church in Auteuil, Paris. It was installed in the Trocadéro, with a fourth manual added, for the Exposition of 1878.)

GRAND-ORGUE		*POSITIF* *		*RÉCIT* *		*SOLO*		*PÉDALE*	
Montre	16′	*Bourdon*	16′	*Quintaton*	16′	*Bourdon*	16′	*Principal basse*	32′
Bourdon	16′	*Principal*	8′	*Flûte harmonique*	8′	*Flûte harmonique*	8′	*Grosse Flûte*	16′
Montre	8′	*Flûte harmonique*	8′	*Viole de gambe*	8′	*Diapason*	8′	*Contrebasse*	16′
Violoncelle	8′	*Salicional*	8′	*Cor de nuit*	8′	*Violoncelle*	8′	*Violon-basse*	16′
Flûte harmonique	8′	*Unda maris*	8′	*Voix céleste*	8′	*Flûte octaviante*	4′	*Soubasse*	16′
Bourdon	8′	*Flûte octaviante*	4′	*Flûte octaviante*	4′	*Octavin*	2′	*Grosse Flûte*	8′
Prestant	4′	*Quinte*	2⅔′	*Quinte*	2⅔′	*Tuba magna*	16′	*Violoncelle*	8′
Flûte douce	4′	*Doublette*	2′	*Octavin*	2′	*Trompette harmonique*	8′	*Basse*	8′
Doublette	2′	*Plein-jeu*	iii to vi-r.	*Cornet*	v-r.	*Clairon harmonique*	4′	*Bourdon*	8′
Cornet	v-r.	*Basson*	16′	*Carillon*	i to iii-r.	*Clarinette*	8′	*Contre Bombarde*	32′
Plein-jeu	v-r.	*Trompette*	8′	*Basson-Hautbois*	8′			*Bombarde*	16′
Bombarde	16′	*Cromorne*	8′	*Voix humaine*	8′			*Basson*	16′
Trompette	8′			*Basson*	16′			*Trompette*	16′
Clairon	4′			*Trompette*	8′			*Basson*	8′
				Clairon harmonique	4′			*Baryton*	8′

SPECIFICATION VIII

ÉGLISE DE SAINT-OUEN (Rouen)

(Organ built by Cavaillé-Coll, 1890)

GRAND-ORGUE		*BOMBARDE*[1]		*POSITIF*		*RÉCIT* *		*PÉDALE*	
Montre	16′	*Grosse Flûte*	8′	*Montre*	8′	*Quintaton*	16′	*Sous-basse*[2]	32′
Violon-basse	16′	*Flûte*	4′	*Bourdon*	8′	*Corno dolce*	16′	*Contrebasse*	16′
Bourdon	16′	*Doublette*	2′	*Gambe*	8′	*Diapason*	8′	*Sous-basse*	16′
Montre	8′	*Grand Cornet*	*v-r.*	*Unda maris*	8′	*Flûte traversière*	8′	*Basse*	8′
Diapason	8′	*Fourniture*	*v-r.*	*Dulciane*	4′	*Gambe*	8′	*Violoncelle*	8′
Flûte harmonique	8′	*Bombarde*	16′	*Flûte douce*	4′	*Cor de nuit*	8′	*Bourdon*	8′
Salicional	8′	*Contre-basson*	16′	*Doublette*	2′	*Voix céleste*	8′	*Flûte*	4′
Bourdon	8′	*Trompette*	8′	*Plein-jeu*	*v-r.*	*Voix éolienne*	8′	*JEUX DE COMBINAISON*	
Prestant	4′	*Clairon*	4′	*Cor anglais*	16′	*Viole d'amour*	4′	*Contre-Bombarde*	32′
Trompette en chamade	8′			*Trompette*	8′	*Flûte octaviante*	4′	*Bombarde*	16′
Clairon en chamade	4′			*Cromorne*	8′	*Basson-Hautbois*	8′	*Basson*	16′
				Clairon	4′	*Clarinette*	8′	*Trompette*	8′
						Voix humaine	8′	*Clairon*	4′
						JEUX DE COMBINAISON			
						Quinte	2⅔′		
						Octavin	2′		
						Cornet (8′)	*v-r.*		
						Carillon	*i* to *iii-r.*		
						Tuba magna	16′		
						Trompette harmonique	8′		
						Clairon harmonique	4′		

[1] In this organ the *Bombarde* is a supplementary manual to the *Grand-orgue* rather than one of independent character. In this respect it resembles the *Grand-chœur* of the organs of Saint-Sulpice and Notre-Dame, although it is placed above the *Grand-orgue*, and not below it.

[2] The choice of a *bourdon* of 32′ was dictated by lack of space.

SPECIFICATION IX

ÉGLISE DE LA MADELEINE (Paris)

(Organ built by Cavaillé-Coll, 1846)

(Organists of the church have been Camille Saint-Saëns, 1858–1877, who was succeeded by Théodore Dubois and Gabriel Fauré. The present organist is M. H. Dallier.)

Compass of Manuals, *C* to *f3*

Compass of Pedale, *C* to *d1*

GRAND-ORGUE		*BOMBARDE*		*POSITIF*		*RÉCIT* *		*PÉDALE*	
Montre	16′	*Sousbasse*	16′	*Montre*	8′	*Flûte harmonique*	8′	*Quintaton*	32′
Violon-basse	16′	*Basse*	8′	*Viole de gambe*	8′	*Bourdon*	8′	*Contrebasse*	16′
Montre	8′	*Flûte harmonique*	8′	*Flûte douce*	8′	*Musette*	8′	*Basse contre*	16′
Bourdon	8′	*Flûte traversière*	8′	*Voix céleste*	8′	*Flûte octaviante*	4′	*Violoncelle*	8′
Salicional	8′	*Flûte octaviante*	4′	*Prestant*	4′	*Octavin*	2′	*Grosse Flûte*	8′
Flûte harmonique	8′	*Octavin*	2′	*Dulciane*	4′	*Voix humaine*	8′	*Bombarde*	16′
Prestant	4′	*Bombarde*	16′	*Octavin*	2′	*Trompette harmonique*	8′	*Trompette*	8′
Quinte	2′	*Trompette harmonique*	8′	*Trompette*	8′	*Clairon harmonique*	4′	*Clairon*	4′
Doublette	2′	*2me Trompette*	8′	*Basson et Hautbois*	8′				
Plein-jeu	x-r.	*Clairon*	4′	*Clairon*	4′				
Trompette	8′								
Cor anglais	8′								

SPECIFICATION X

ÉGLISE DE SAINTE-CLOTHILDE (Paris)

(Cavaillé-Coll)

(César Franck was organist from 1859 to 1890. The present organist is M. Charles Tournemire.)

GRAND-ORGUE		*POSITIF*		*RÉCIT **		*PÉDALE*	
Montre	16′	*Bourdon*	16′	*Viole de gambe*	8′	*Quintaton*	32′
Bourdon	16′	*Montre*	8′	*Flûte harmonique*	8′	*Contrebasse*	16′
Montre	8′	*Flûte harmonique*	8′	*Bourdon*	8′	*Flûte*	8′
Flûte harmonique	8′	*Bourdon*	8′	*Voix céleste*	8′	*Octave*	4′
Bourdon	8′	*Gambe*	8′	*Flûte octaviante*	4′	*Bombarde*	16′
Gambe	8′	*Salicional*	8′	*Octavin*	2′	*Basson*	16′
Prestant	4′	*Prestant*	4′	*Trompette*	8′	*Trompette*	8′
Octave	4′	*Flûte octaviante*	4′	*Basson-Hautbois*	8′	*Clairon*	4′
Quinte	$2\frac{2}{3}$′	*Quinte*	$2\frac{2}{3}$′	*Voix humaine*	8′		
Doublette	2′	*Doublette*	2′	*Clairon*	4′		
Plein-jeu		*Trompette*	8′				
Bombarde	16′	*Clairon*	4′				
Trompette	8′	*Clarinette*	8′				
Clairon	4′						

SPECIFICATION XI

CONSERVATOIRE ROYAL DE MUSIQUE (Brussels)

(Cavaillé-Coll, 1868)

GRAND-ORGUE		*POSITIF **		*RÉCIT **		*PÉDALE*	
Montre	16′	*Bourdon*	16′	*Quintaton*	16′	*Soubasse*	32′
Bourdon	16′	*Diapason*	8′	*Salicional*	8′	*Contrebasse*	16′
Montre	8′	*Flûte traversière*	8′	*Flûte harmonique*	8′	*Bourdon*	16′
Flûte harmonique	8′	*Gambe*	8′	*Cor de nuit*	8′	*Flûte*	8′
Bourdon	8′	*Voix céleste*	8′	*Unda maris*	8′	*Violoncelle*	8′
Violoncelle	8′	*Flûte octaviante*	4′	*Principal*	4′	*Octave*	4′
Prestant	4′	*Octavin*	2′	*Flûte douce*	4′	*Bombarde*	16′
Quinte	$2\frac{2}{3}$′	*Basson*	16′	*Doublette*	2′	*Trompette*	8′
Doublette	2′	*Trompette*	8′	*Carillon*	*i* to *iii-r.*	*Clairon*	4′
Cornet	*v-r.*	*Musette*	8′	*Trompette*	8′		
Plein-jeu	*v-r.*	*Vox humana*	8′	*Basson*	8′		
Bombarde	16′	*Clairon harmonique*	4′	*Clarinette*	8′		
Trompette	8′			*Cromorne*	8′		
Clairon	4′						

SPECIFICATION XII

CATHÉDRALE DE CHARTRES

(The subjoined specification of the present organ was achieved in 1881 by MM. Abbey Frères of Paris, by reconstruction and enlargement of the then existing instrument. Structural improvements were effected in 1912 by M. J. Gutschenritter of Paris, successor to Merklin et Cie.)

GRAND-ORGUE		*POSITIF*		*RÉCIT* *		*PÉDALE*	
Montre	16′	*Montre*	8′	*Flûte harmonique*	8′	*Montre*	16′
Bourdon	16′	*Bourdon*	8′	*Gambe*	8′	*Soubasse* [1]	16′
Flûte harmonique	8′	*Flûte harmonique*	8′	*Voix céleste*	8′	*Montre*	8′
Bourdon	8′	*Salicional*	8′	*Cor de nuit*	8′	*Bombarde*	16′
Montre	8′	*Prestant*	4′	*Kéraulophon*	8′	*Trompette*	8′
Gambe ou Violoncelle	8′	*Flûte octaviante*	4′	*Flûte octaviante*	4′		
Gemshorn	8′	*Doublette*	2′	*Octavin*	2′		
Prestant	4′	*Plein-jeu*	iii-r.	*Trompette*	8′		
Grand Cornet	v-r.	*Trompette harmonique*	8′	*Hautbois*	8′		
Bombarde	16′	*Cromorne*	8′	*Voix humaine*	8′		
Trompette	8′	*Cor anglais*	8′				
Clairon	4′	*Clairon*	4′				

[1] By transmission.

SPECIFICATION XIII

CATHÉDRALE DE SAINT-MALO

(Organ built in 1890 by M. Louis Debierre of Nantes. The action is electro-pneumatic.)

GRAND-ORGUE		*POSITIF*		*RÉCIT*		*PÉDALE*	
Montre	16′	*Flûte harmonique*	8′	*Quintaton*	16′	*Contrebasse*	16′
Bourdon	16′	*Salicional*	8′	*Diapason*	8′	*Soubasse*	16′
Montre	8′	*Flûte* (large)	8′ [1]	*Flûte traversière*	8′	*Flûte*	8′
Flûte	8′	*Doublette*	2′	*Gambe*	8′	*Bourdon*	8′
Violoncelle	8′	*Cornet*	*ii* to *v-r.*	*Voix céleste*	8′	*Bombarde*	16′
Bourdon	8′	*Bombarde*	16′	*Cor de nuit*	8′	*Trompette*	8′
Prestant	4′	*Trompette*	8′	*Flûte octave*	4′ [1]		
Nazard	2′ [1]	*Clarinette*	8′	*Octavin*	2′		
Plein-jeu	*v-r.*	*Clairon*	4′	*Tierce*	$1\frac{3}{5}$′		
				Basson acoustique	16′		
				Basson-Hautbois	8′		
				Trompette	8′		
				Voix humaine	8′		
				Clairon	4′		

[1] Names of registers and their pitch are taken from the specification given by Mr. Cooke in *Musical Opinion*, March, 1914.

SPECIFICATION XIII — *Continued*

MECHANICAL ACCESSORIES

Couplers (in key-frames)	Pedal Movements
Grand-orgue to *Pédale*	*Tirasses*
Positif to *Pédale*	*Accouplements*
Récit to *Pédale*	*Fonds 8′*
Positif to *Grand-orgue*	*Fonds 16′, 8′, 4′*
Récit to *Grand-orgue*	*Anches Pédale*
Récit to *Positif*	*Anches Positif*
(Draw-stops)	*Anches Récit*
Grand-orgue Octaves	*Anches* (all)
Pédale Octaves	*Plein-jeu* (full-organ)
	Crescendo Pedal
	Tremblant Récit
	Tonnerre

This specification is interesting as an example of the later work of M. Debierre, in all of which he has given preference to electro-pneumatic action throughout. It will be noted that the reeds ordinarily placed upon the *Grand-orgue* are here found in the *Positif;* and that in many respects, especially with regard to mechanical accessories and coupler action, this organ exhibits more similarity to contemporary instruments of England and America than do any of the others whose specifications are here given.

SPECIFICATION XIV

ORGAN IN THE RESIDENCE OF THE LATE ALEXANDRE GUILMANT (Meudon-sur-Seine, Paris)

(Built by Cavaillé-Coll)

GRAND–ORGUE		*POSITIF* *		*RÉCIT* *		*PÉDALE*	
Bourdon	16′	*Flûte creuse*	8′	*Diapason*	8′	*Contrebasse*	16′
Montre	8′	*Viole de gambe*	8′	*Flauto traverso*	8′	*Soubasse*	16′
Flûte harmonique	8′	*Cor de nuit*	8′	*Dulciane*	8′	*Flûte*	8′
Salicional	8′	*Flûte douce*	4′	*Voix célestes*	8′	*Violoncelle*	8′
Prestant	4′	*Nasard*	$2\frac{2}{3}$′	*Flûte octaviante*	4′	*Bourdon*	8′
		Quarte de Nasard	2′	*Doublette*	2′	*Basson*	8′
		Tierce	$1\frac{3}{5}$′	*Plein-jeu*	iii-r.		
		Cromorne	8′	*Basson-Hautbois*	8′		
				Trompette harmonique	8′		

MECHANICAL ACCESSORIES

Fonds Pédale
Grand-orgue to *Pédale*
Positif to *Pédale*
Récit to *Pédale*
Anche (Reed) *Pédale*
Piano combination *Grand-orgue*

Forte combination *Grand-orgue*
Anches Récit
Expression Positif
Expression Récit
Fonds Grand-orgue

Couplers:
Grand-orgue, octaves
Positif to *Grand-orgue*
Récit to *Grand-orgue*
Récit to *Grand-orgue*, sub-octaves
Récit to *Positif*
Tremblant

SPECIFICATION XV

ÉGLISE DE SAINT-GODARD (Rouen)

(Organ built by Cavaillé-Coll, 1884)

GRAND-ORGUE		*RÉCIT**		*PÉDALE*	
Violon-basse	16′	*Flûte traversière*	8′	*Contrebasse*	16′
Bourdon	16′	*Diapason*	8′	*Soubasse*	16′
Montre	8′	*Viole de gambe*	8′	*Flûte ouverte*	8′
Flûte harmonique	8′	*Voix céleste*	8′	*JEUX DE COMBINAISON*	
Salicional	8′	*Flûte octaviante*	4′	*Bombarde*	16′
Bourdon	8′	*Voix humaine*	8′	*Trompette*	8′
Unda maris	8′	*JEUX DE COMBINAISON*		*Clairon*	4′
Prestant	4′	*Octavin*	2′		
JEUX DE COMBINAISON		*Trompette*	8′		
Quinte	2⅔′	*Basson-Hautbois*	8′		
Doublette	2′	*Clairon*	4′		
Plein-jeu	v-r.				
Basson	16′				
Trompette	8′				
Clairon	4′				

SPECIFICATION XVI

ORGUE DE CHŒUR, ÉGLISE DU SACRÉ-CŒUR (Montmartre, Paris)

(Constructed by Mutin, and placed in a tribune at the side of the chancel)

Manuals, 56 notes Pedale, 30 notes

GRAND-ORGUE		*RÉCIT* *		*PÉDALE*	
Bourdon	*16′*	*Diapason*	*8′*	*Flûte*	*16′*
Montre	*8′*	*Viole de gambe*	*8′*	*Soubasse* (borrowed)	*16′*
Flûte harmonique	*8′*	*Cor de nuit*	*8′*	*Flûte*	*8′*
Salicional	*8′*	*Voix céleste*	*8′*		
Bourdon	*8′*	*Flûte octaviante*	*4′*		
Prestant	*4′*	*Plein-jeu*	*iv-r.*		
Nazard	*2⅔′*	*Basson*	*16′*		
		Trompette harmonique	*8′*		
		Basson-Hautbois	*8′*		
		Soprano harmonique	*4′*		

SPECIFICATION XVII

(TYPICAL SPECIFICATION OF AN *ORGUE DE CHŒUR*[1])

(Minimum number of registers)

GRAND-ORGUE		*RÉCIT* *		*PÉDALE*[2]	
Bourdon	16′	*Cor de nuit*	8′	*Soubasse* (borrowed)	16′
Montre	8′	*Viole de gambe*	8′		
Flûte harmonique	8′	*Voix céleste*	8′		
Prestant	4′	*Flûte octaviante*	4′		
		Plein-jeu	iv-r.		
		Trompette	8′		

[1] I am indebted to the courtesy of M. Charles Mutin for Specifications XVI and XVII of *orgues de chœur*.
[2] I have noted that the *Pédale* of the *orgue de chœur* is often reinforced by contrabasses.

GLOSSARY

MANY of the following words and designations admit of more than one translation. In such cases the translations here given are only those associated with the organ, or with related subjects.

In the compilation of the Glossary I have frequently referred for information to Mr. Wedgwood's *Dictionary of Organ Stops*, to *L'Orgue Moderne*, by Alex. Cellier, and to the *Dictionnaire Larousse*. I acknowledge my indebtedness to their authors and publishers.

ABBREVIATIONS

abbr.	abbreviation	*it.*	Italian
adj.	adjective	*lat.*	Latin
adv.	adverb	*lit.*	literally
ant.	antonym	*liturg.*	liturgical
arch.	architecture	*m.*	masculine
conj.	conjunction	*mus.*	music
eccles.	ecclesiastical	*n.*	noun
e.g.	for example	*org.*	organ, applied to the organ
f.	feminine	*pl.*	plural
fig.	figuratively	*prep.*	preposition
fr.	French	*pro.*	pronoun
ger.	German	*q. v.*	which see
gr.	Greek	*v. i.*	verb intransitive
imp.	imperative	*v. t.*	verb transitive

A

Abside *n. f.* *eccles. arch.* Apse; the semicircular east end of the choir.

Absoute *n. f.* Absolution.

Accompagnement *n. m.* Accompaniment.

Accord *n. m.* Chord; consonance. ***Accorder***, *v. t.*, to tune.

Accouplement *n. m.* Coupler. Applied only to the couplers from one manual to another. (See ***Tirasse***.)

Acoustique *n. f.* Acoustics. Also *adj.*, acoustic.

Adoration *n. f.* *lit.* Adoration, worship. A composition of reverent and quiet character, suitable for use at the most solemn portion of the service.

Aigu-ë	*adj.*	Sharp, acute. ***Octave aiguë***, the octave above, as opposed to *octave grave* (*q. v.*).
Allêluia	*n. m.*	(*gr.*) 1. A word of praise added to various texts of the liturgy at certain seasons of the church year. 2. A composition of brilliant character.
Allemagne	*n. f.*	Germany.
Allemand	*adj.*	German.
Amérique	*n. f.*	America. ***Amérique du Nord***, North America. The word *Amérique* is frequently applied to the United States. ***Américain***, *adj.*, American. See above.
Anche	*n. f.*	Reed. ***Anche libre***, free reed. ***Anches à tous les claviers***, reeds on all manuals.
Ancien, -ne	*adj.*	Old; former.
Anglais	*adj.*	English.
Angleterre	*n. f.*	England.
Annonciation	*n. f.*	The Feast of the Annunciation B. V. M., March 25.
Antienne	*n. f.*	*liturg.* Antiphon; a verse, usually from the scriptures, sung in part or as a whole before and after psalms and canticles, prescribed in accordance with the character of the day. In the sixteenth century the latin word *antiphona* was translated by *anthem*, and is still so rendered in certain parts of the English Prayer-book.
Appel	*n. m.*	*lit.* A call, summons. ***Pédale d'appel***, a pedal controlling the admission of the wind to the pneumatic action of a division or of the whole of a manual or *Pédale* chest. Also called *pédale de combinaison.*
Après	*adv.*	After.
Artiste	*n. m.*	Artist; musician.
Assomption	*n. f.*	The Feast of the Assumption B. V. M., August 15.
Audition	*n. f.*	Performance; hearing.
Autel	*n. m.*	Altar. ***Maître-autel***, high altar.
Avant	*adv.*	Before.

B

Baryton	*n. m.*	*org.* A reed of 8′, usually placed in the *Pédale.*
Bas (*f. basse*)	*adj.*	Low.
Basilique	*n. f.*	*eccles. arch.* Among the Romans, a long oblong hall with a semicircular apse at the end. In modern use, a church edifice of similar form.

Basse	*n. f.*	Bass. ***Basses de 16′, 8′***, *Pédale* foundation stops 16′ and 8′.
Basson	*n. m.*	Bassoon; a light reed stop of 8′, often of 16′, especially in the *Pédale*. Occasionally this register controls the lower portion of the *hautbois* or Oboe.
Bémol	*n. m.*	Flat; the sign which lowers a note by a half-tone.
Bénédiction du Saint Sacrement	*n. f.*	*liturg.* Benediction of the Blessed Sacrament; a solemn service of the Roman Church, frequently celebrated immediately after Vespers.
Bien	*adv.*	Well, thoroughly.
Blanc (f. blanche)	*adj.*	White. ***Touches blanches***, the white keys or naturals.
Blanche	*n. f.*	A half-note.
Bois	*n. m.*	Wood. ***Les bois***, the wood-wind instruments of the orchestra, collectively.
Boîte expressive	*n. f.*	Swell-box.
Bombarde	*n. f.*	1. A manual containing powerful stops, usually placed above the *Grand-orgue* and called ***clavier des bombardes***. 2. A powerful reed of 16′ or 32′, usually placed in the *Pédale*.
Bouche	*n. f.*	Mouth. ***Bouché***, adj., stopped; as ***jeux bouchés***, stopped registers.
Bourdon	*n. m.*	The general designation of all stopped flutes, whether of 32-, 16-, 8- or 4-ft. pitch. The name *bourdon* is given to stops of this class of 16′ and 8′ on the manuals, and of 8′ in the *Pédale*. Those of 32′ and 16′ in the *Pédale* are called *soubasse*. ***Bourdon à cheminée***, chimney flute (*rohrflöte*).
Bouton	*n. m.*	***Bouton de registre***, register-knob; ***bouton de combinaison***, combination piston.
Buffet	*n. m.*	*org.* The front or façade of the case.

C

Calotte	*n. f.*	A metal cap slipped over the upper end of a pipe; a stopper. (In France nearly all stopped pipes higher than 4-ft. pitch are metal.)
Cantique	*n. m.*	A canticle, a religious melody or song.
Carême	*n. m.*	*eccles.* The season of Lent.
Carillon	*n. m.*	A mixture stop in which the 2-ft. rank is replaced by one of 1-ft. pitch.

Cathédrale	*n. f.*	Cathedral; the principal church of a diocese, the seat of the bishop.
Catholique	*adj.*	Roman catholic.
Causerie	*n. f.*	*lit.* an informal conversation.
Chamade	*n. f.*	(From the Italian *chiamata*, a military signal given by trumpets or drums.) *Org.* ***en chamade*** signifies that the pipes are placed horizontally, instead of vertically. This method is applied only to powerful reeds; as ***trompettes en chamade.***
Changement	*n. m.*	Change.
Chant	*n. m.*	Melody, song. ***Chant grêgorien,*** plain-song; not a gregorian chant. (See ***ton.***)
Chapelle	*n. f.*	1. A small church. A portion of a church containing an altar. A place reserved for religious worship in an institution, as a hospital or school. 2. A church choir.
Chef-d'œuvre	*n. m.*	Masterpiece.
Chœur	*n. m.*	1. The choir or chancel of a church. 2. A choir, chorus. (See ***grand-chœur***; ***maîtrise.***)
Choral	*n. m.*	Chorale; applied to compositions based upon a serious, chorale-like theme.
Clairon	*n. m.*	A reed of 4′, of trumpet quality. Placed on the manuals and in the *Pédale.*
Clarabella	*n. f.*	(Lat. *clarus*, bright; *bellus*, beautiful.) A clear flute of 8′, whose pipes are constructed of wood. Little used in France.
Clarinette	*n. f.*	Clarinet. A reed stop designed to imitate the orchestral instrument of the same name. (See ***cromorne.***)
Clavecin	*n. m.*	Harpsichord.
Claveciniste	*n. m.*	A performer upon the harpsichord; applied also to organists in the seventeenth and eighteenth centuries.
Clavier	*n. m.*	Manual, keyboard.
Clef	*n. f.*	(*lat. clavis*, key.) Clef.
Clochette	*n. f.*	A small bell. ***Jeu de clochette,*** a stop of 1-ft. pitch.
Combinaison	*n. f.*	Combination. ***Combinaisons libres,*** adjustable or free combinations.
Commun	*adj.*	Common. *n. m. liturg.* Applied to texts prescribed for use upon all feasts of a certain class or character.
Communion	*n. f.*	*liturg.* A verse in the Mass said by the celebrant and repeated by the choir. A quiet, serious composition appropriate to corresponding use.

Composé	*adj.*	Compound. ***Jeux composés***, mixtures.
Compositeur	*n. m.*	A composer of music.
Composition	*n. f.*	A short musical work, or composition. ***Composition de l'orgue***, specification.
Console	*n. f.*	Console, key-desk.
Construire	*v. t.*	To construct, build.
Contrebasse	*n. f.*	A *Principal* of 16′, of large scale, placed in the *Pédale*.
Cor anglais	*n. m.*	English horn. A reed of 16- or 8-ft. pitch, designed to imitate to some extent the orchestral instrument.
Cor de nuit	*n. m.*	*lit.* night-horn (*ger. Nachthorn*). A stopped register of 8′; the softest stop of the organ.
Cornet	*n. m.*	A mixture of III- or IV-ranks, giving the lower harmonics of the 16′ or 8′ series. Of large scale.
Corno dolce (it.)	*n. m.*	*lit.* a soft horn. A soft flute stop; in French organs more often a reed of 4′, placed in the *Pédale*. (See Specifications.)
Couleur	*n. m.*	Color, quality.
Croche	*n. f.*	An eighth-note; a corresponding division of a measure. ***Double croche***, a sixteenth note. ***Triple croche***, a thirty-second note.
Cromorne	*n. m.*	(Derivation variously ascribed to *ger. Krummhorn* and *fr. cor*, horn, and *morne*, sombre or melancholy.) A species of clarinet stop more in favor in the eighteenth century and first part of the nineteenth.
Culte	*n. m.*	A system of religious belief; a Church or denomination.
Cymbale	*n. f.*	A mixture stop, like the *fourniture*, but higher in pitch, and with frequent breaks.

D

Dans	*prep.*	In.
Découpler	*v. t.*	To uncouple. *imp.* ***découplez.***
Dédoublement	*n. m.*	The system of augmentation, whereby some of the pipes of a stop are borrowed from another stop of a different pitch.
Défaut	*n. m.*	Fault, defect; ***au défaut de***, in default of, in the absence of.
Dehors	*adv.*	Outward, outside, exterior. ***En dehors***, *fig.*, to be brought out or emphasized, as a melody in an inner voice.

Désaccoupler	*v. t.*	See ***découpler***.
Dessus	*n. m.*	The upper part, the treble.
Détail	*n. m.*	Detail. *org.* ***En détail***, in combinations of a few registers.
Deux	*adj. num.*	Two.
Deuxième	*adj. num.*	Second. *abbr.* ***2me*** or ***2ème***.
Diapason	*n. m.*	1. Scale, proportions. 2. Pitch or standard, as ***diapason normal***, normal or international pitch. 3. *org.* A stop similar to the *montre* or *principal*, but of smaller scale and more positive quality. Of 8′, on the manuals.
Dièse	*n. m.*	Sharp; the sign which raises a note a half-tone. ***Double dièse***, double sharp.
Dimanche	*n. m.*	Sunday.
Diocèse	*n. m.*	*eccles.* The division of a state or country over which a bishop has jurisdiction.
Doublette	*n. f.*	The 2-ft. stop of the *principal* family.
Doux (*f.* ***douce***)	*adj.*	Soft, quiet, sweet.
Droit	*adj.*	Right.
Dulciane	*n. f.*	A soft stop of narrow scale and quiet tone. 8′ and 4′.

E

Échelle	*n. f.*	Scale.
Écho	*n. m.*	*org.* A manual containing soft stops; not often found in France. Contrary to American custom the pipes are not placed at a distance from the organ, but merely form a supplementary division of it. The manual is usually placed above that of the *Récit*.
École	*n. f.*	1. A school, institution of learning. 2. A school, in the sense of a standard or type of method or characteristics; as *the French school of musical composition*.
Éditeur	*n. m.*	Publisher.
Église	*n. f.*	1. An organized body of Christians, as ***l'église romaine***, the Roman Catholic Church; ***l'église grecque***, the Greek Church; ***l'église protestante***, the Protestant Church. 2. The ecclesiastical establishment, as opposed to civil government. 3. A church edifice.
Élévation	*n. f.*	*liturg.* 1. One of the most solemn moments of the Mass. 2. A composition of devotional and exceedingly quiet character.

Élève	*n. m. f.*	Scholar, pupil.
En chamade		(See *chamade*.)
Enlever	*v. t.*	To withdraw, take off, retire (as stops or couplers).
Ensemble	*n. m.*	The whole; the result of the union of separate elements.
Étain	*n. m.*	Tin.
Étendue	*n. f.*	Compass, range.
Étoffe	*n. f.*	The name given by organ-builders to a mixture of tin and other metals.
Étroit	*adj.*	Narrow, restricted.
Euphone	*n. f.*	A free reed stop, usually of 16-ft. pitch and individual quality.
Évangélique	*adj.*	Evangelical; protestant.
Exécution	*n. f.*	Performance.
Expression	*n. f.*	Swell-pedal. ***Avec expression***, expressively.

F

Fabrique	*n. f.*	Manufactory.
Façade	*n. f.*	*arch.* The front or face of a building.
Facteur	*n. m.*	*mus.* A maker of musical instruments.
Facture	*n. f.*	Manufacture, production.
Fermer	*v. t.*	To close, shut; *imp.* ***fermez***, close. ***Fermez la boîte***, close the swell-box.
Fête	*n. f.*	*eccles.* Feast; a day of commemoration, as of events in the life of our blessed Lord, of apostles, martyrs.
Fête-Dieu	*n. f.*	*eccles.* The feast of *Corpus Christi*, the second Thursday after the feast of Pentecost.
Fidèles	*n. m. pl.*	*lit.* the faithful. *fig.* A body of worshippers; the congregation.
Flageolet	*n. m.*	(*Flautina.*) A 2-ft. stop, quieter in tone than the fifteenth.
Flûte	*n. f.*	The typical stop of wide scale; of 32-, 16-, 8-, 4- and 2-ft. pitch. ***Flûte harmonique*** (manuals only), a brilliant, full-toned flute stop whose pipes (excepting the lower ones) are made twice their usual speaking length, and pierced to restore the normal pitch. One of the most characteristic stops of French organs. ***Flûte octaviante***, a harmonic flute of 4′. ***Flûte traversière***, Traverse Flute; analogous to the orchestral instrument. ***Flûte douce***, a soft flute (stopped pipes) of 4′. ***Flûte creuse*** (*hohlflöte*) and ***flûte à pavillon*** (bell diapason) are flute stops of harder tone, approaching more closely that of a *diapason* or *salicional*.

Fois	*n. f.*	Time; as *une fois*, once; *trois fois*, three times. *À la fois*, together, simultaneously.
Fond	*n. m.*	Foundation. *Fonds*, collectively the flue stops of 32-, 16-, 8-, 4- and 2-ft. pitch, as opposed to mixtures, mutations and reeds.
Fondamental	*adj.*	Fundamental.
Fort	*adj.*	Strong. *Temps fort*, strong beat (of a measure).
Fourniture	*n. f.*	A mixture of several ranks, giving fifths and octaves.
Frein harmonique	*n. m.*	(*Frein* = curb, bit.) A roller or " beard " attached to the mouth of pipes of a certain class to render their speech more prompt.
Fugara	*n. f.*	A 4-ft. stop of *salicional* or *kéraulophone* quality.

G

G. or *G.-O.*	*abbr.*	*Grand-orgue.*
Gambe	*n. f.*	The principal stop of string quality, not unlike the Violin Diapason of American organs. Usually of 8-, sometimes of 16-ft. pitch. Used as the " in tune rank " of the *voix céleste*. Not to be confused with our modern Gamba. *Gambes*, string-toned stops.
Gauche	*adj.*	Left.
Gemshorn	*n. m.*	(*ger. Gemse*, chamois.) With the *cor de nuit*, the softest stop of the organ. Of 8- and 4-ft. pitch.
Généralement	*adv.*	Generally, usually.
Graduel	*n. m.*	*liturg.* A verse sung in the Mass between the epistle and the gospel.
Graduellement	*adv.*	Gradually, little by little.
Grand-Chœur	*n. m.*	A manual from which are played certain stops belonging to the *Grand-orgue* division; only found in the largest organs, and placed below the *Grand-orgue* manual. (See p. 30.) 2. The full power of a manual, or of the entire organ. 3. A composition designed to display the full power of an organ.
Grand-Orgue	*n. m.*	1. The principal organ, usually situated in a gallery or *tribune* over the main entrance of the church. 2. The chief manual, usually placed lowest in the order of the keyboards.

Gros, -se	*adj.*	Prefixed to mixture or mutation stops, generally signifies pitch an octave lower than usual. ***Grosse-flûte***, a powerful flute of 16- or 8-ft. pitch. Not often found in France.

H

Harmonique	*adj.*	Harmonic. ***Son harmonique***, overtone.
Haut	*adj.*	High.
Hautbois	*n. m.*	Oboe. A reed stop of 8-ft. pitch, approximating in quality the tone of the orchestral instrument.
Hauteur	*n. m.*	Height, pitch.
Huit	*adj. num.*	Eight.

I

Indication	*n. f.*	Indication. ***Indication des jeux***, registration.
Intervalle	*n. f.*	Interval.
Invocation	*n. f.*	Invocation, prayer. A composition of appropriate character.

J

Jalousie	*n. f.*	Shutter, swell-fold.
Jeu (*pl.* ***jeux***)	*n. m.*	Stop, register. ***Jeux de fond***, foundation stops. ***Jeux d'anches***, reeds. ***Jeux composés***, mixtures.
Jeudi-saint	*n. m.*	Maundy Thursday, Thursday in Holy Week.
Jouer	*v. t.*	To play; *imp.* ***jouez***.
Jour	*n. m.*	Day. ***Jour des morts***, All Souls' Day (Nov. 2).
Jusqu'au	*prep.*	Up to, as far as.

K

Kéraulophone	*n. f.*	(*gr.* κέρας = horn; αὐλός = pipe; φωνή = voice.) An 8′ stop, in quality between the *montre* and the *salicional*.
Kyrie eleison	*n. m.*	(*gr.*) A supplication sung at the beginning of the Mass.

L

Laisser	*v. t.*	To leave; *imp.* ***laissez***.
Large	*adj.*	Broad, wide.
Larigot	*n. m.*	A simple mutation stop sounding an octave above the Twelfth.

Lumière *n. f.* The narrow lateral slot through which the wind is directed against the lip of the pipe.

M

Machine *n. f.* The pneumatic action of a single manual, or of the *Pédale*. ***Machine pneumatique***, pneumatic pallet or valve.

Main *n. f.* Hand. ***Main droite***, right hand; ***main gauche***, left hand; ***claviers à mains***, manuals.

Mais *conj.* But.

Maître *n. m.* Master; a title of respect applied to one's teacher or to musicians of distinction. ***Maître de chapelle***, choir master; ***maître des chœurs***, chorus master; ***maître-autel***, high altar.

Maîtrise *n. f.* *eccles.* A choir of boys.

Majeur *adj.* Major.

Manuel *n. m.* Manual; a manual keyboard.

Mélange *n. m.* Combination, mixture (of stops).

Même *adj.* Same. *Adv.* even, also.

Messe *n. f.* *liturg.* (*lat. missa.*) The Sacrifice of the Mass, the Mass; the principal service of the Roman Catholic Church. The portions sung by the choir at the principal celebration are *Kyrie eleison*, *Gloria in excelsis Deo*, *Credo*, *Sanctus* and *Benedictus*, and *Agnus Dei*, which comprise the Ordinary (*ordinaire*, *q. v.*); with the Introit, Gradual or Tract, Alleluia or Sequence, Offertory and Communion, which form the Proper (*propre*, *q. v.*). ***Messe basse***, low mass; ***messe chantée***, sung mass; ***grand'messe***, high mass; ***messe solennelle***, solemn mass; ***messe pontificale***, pontifical mass; ***messe de mariage***, nuptial mass; ***messe des morts*** (*lat. missa pro defunctis*; *it. missa da requiem*), requiem mass, mass for the dead; ***messe en plainchant***, sung to a plainsong setting; ***messe en musique***, sung to a polyphonic or harmonized setting.

Mettre *v. t.* To take, place. *imp.* ***mettez***, draw (a stop).

Mineur *adj.* Minor.

Mixture	*n. f.*	The family name of compound stops, having more than one pipe for every note, each pipe sounding one of the natural overtones of a given fundamental.
Mode	*n. m.*	Mode. ***Mode majeur***, major mode; ***mode ambrosien***, Ambrosian mode; ***mode grégorien***, Gregorian mode.
Moderne	*adj.*	Modern. *ant. Ancien.*
Moins	*adv.*	Less. ***Au moins***, at least.
Moitié	*n. m.*	Half. ***Boîte ouverte à moitié***, swell-box half open.
Montre	*n. f.*	The Diapason of the French organ; a full-toned, sonorous stop of 16′ and 8′ pitch. The pipes of the *montre* are often exposed in the front of the organ-case, hence its name (*fr. v. t. montrer*, to show). In the *Pédale* the stop is usually called *principal*, or *principal-basse;* or *contre-basse* (*q. v.*). It is occasionally called *principal* on the manuals.
Morceau	*n. m.*	Piece, composition.
Moyen	*n. m.*	Means, resource.
Moyen, -enne	*adj.*	Medium, mean.
Musette	*n. f.*	A light reed of 8-ft. pitch, a species of oboe.
Musicien, -enne	*n.*	Musician.

N

Nasard	*n. m.*	A soft Twelfth, sounding a fifth above the octave, and composed of stopped pipes.
Nef	*n. f.*	*eccles. arch.* Nave; the length of the church from the west portal to the choir.
Ni	*conj.*	Nor. ***Ni . . . ni***, neither . . . nor.
Noël	*n. m.*	1. The feast of The Nativity, Christmas. 2. A composition of appropriate character, either vocal or instrumental; a carol.
Noire	*n. f.*	A quarter-note.
Note	*n. f.*	1. A note; ***notes de l'échelle***, notes of the scale. 2. Memorandum, commentary.

O

Octave	*n. f.*	1. Octave. 2. An organ stop of 4-ft. pitch, less brilliant than the *prestant.* (Of 8- or 4-ft. pitch in the *Pédale.*) 3. *liturg.* The period of seven days following certain Feasts, during which the commemoration or celebration is continued.

Octave aiguë	*n. f.*	An octave above.
Octave grave	*n. f.*	An octave below. *org.* ***Octaves graves,*** sub-octave couplers.
Octavin	*n. m.*	A harmonic flute of 2-ft. pitch.
Offertoire	*n. m.*	*liturg.* 1. Offertory; a portion of the Mass. 2. A prescribed text to be sung at the Offertory, varying according to the character of the day. 3. A composition suitable for use at the Offertory.
Ophicléide	*n. m.*	(*gr.* ὄφις, serpent, and κλείς, key.) 1. An orchestral instrument which replaced the Serpent. 2. A reed organ stop, usually of 16-ft. pitch and placed in the *Pédale.*
Orchestre	*n. m.*	Orchestra.
Ordinaire	*n. m.*	*liturg.* Collectively, those portions of the Mass whose texts do not change according to the feast commemorated. (*ant. propre, q. v.*) *e.g. Kyrie eleison, Sanctus,* etc.
Orgue	*n. m.*	(*pl.* often *f.*) Organ. ***Orgue de chœur,*** a small organ placed in or near the chancel, used for the accompaniment of the choir. ***Orgue à tuyaux,*** pipe organ.
Orgue expressif	*n. m.*	Harmonium, " cabinet organ."
Ôter	*v. t.*	To remove, retire, withdraw; *imp.* ***ôtez,*** put off (a stop).
Ouvert	*adj.*	Open. (*ant. fermé,* closed; *bouché,* stopped.)
Ouvrir	*v. t.*	To open; *imp.* ***ouvrez.***

P

P.	*abbr.*	*Positif.*
Pâques	*n. m.*	The feast of The Resurrection, Easter.
Paroisse	*n. f.*	*eccles.* Parish.
Passer	*v. t.*	To pass; *imp.* ***passez.***
Pavillon	*n. m.*	A bell-shaped termination of an organ-pipe. (See ***flûte à pavillon.***)
Péd.	*abbr.*	*Pédale.*
Pédale	*n. f.*	1. The division of the organ containing the pipes played only from the pedal key-board. 2. Pedal operating a mechanical movement.
Pédalier	*n. m.*	The pedal key-board.
Pendant	*prep.*	During.

Pentecôte	***n. m.***	(*gr.* πεντηκοστή, fiftieth day.) The feast of Pentecost, Whitsunday. In the Roman Church the succeeding Sundays to Advent are numbered from Pentecost; thus the fifth Sunday after Pentecost is the fourth after Trinity, in Anglican usage.
Petit	*adj.*	Small, little.
Peu	*adv.*	Little. ***Peu à peu***, little by little.
Piccolo	*n. m.*	(*it. flauto piccolo*, small flute.) An organ stop of 1-ft. pitch of the *principal* family; the highest stop of the organ.
Pied	***n. m.***	Foot. ***Jeux de 8 pieds***, stops of 8 ft. ***Orgue de 32 pieds***, an organ containing one or more stops of that pitch.
Plein-jeu	***n. m.***	1. A mixture having numerous ranks, often including the seventeenth. 2. Full organ.
Plus	*adv.*	More. ***De plus***, beside; in addition; ***de plus en plus***, more and more.
Plusieurs	*adj.*	Several.
Pos.	*abbr.*	***Positif.***
Posaune	*n. f.*	(*ger. Posaune*, trombone.) A heavy reed stop of 16-ft. pitch, usually placed in the *Pédale.*
Positif	*n. m.*	A subsidiary manual, standing between the *Grand-orgue* and *Récit* both in location and in character. Corresponds fairly to the Choir-organ of older American instruments.
Premier, -ère	*adj. num.*	First. *abbr.* ***1er, 1ère.***
Prêparer	*v. t.*	To prepare. *imp.* ***prêparez.*** ***Anches prêparées***, reeds prepared; a direction constantly found in French organ music, rendered unnecessary by the mechanical construction of American organs, where the reeds can generally be added by a mechanical movement when desired.
Prestant	*n. m.*	A *principal* of 4-ft. pitch and of brilliant quality.
Prière	*n. f.*	Prayer. A composition of appropriate nature.
Principal	*n. m.*	The typical organ stop; a full-scaled, sonorous Diapason of 32-, 16-, or 8-ft. pitch. (See ***Montre.***)
Profane	*adj.*	Secular. (ant. *sacré.*)
Propre	*n. m.*	Collectively, those portions of the Mass whose texts change according to the feast celebrated. (See ***Ordinaire.***)

Prose	*n. f.*	*liturg.* Sequence; a hymn appointed to be sung between the epistle and gospel on certain days. Sequences were formerly numerous, but to-day only five have been retained by the Roman Church: *Victimæ paschali* (Easter); *Veni Sancte Spiritus* (Pentecost); *Lauda Sion* (Corpus Christi); *Dies iræ* (*Missa pro defunctis*); and *Stabat Mater dolorosa* (Feast of the Seven Dolors B. V. M.).
Psaume	*n. m.*	Psalm.

Q

Quarte de nasard	*n. f.*	*lit.* **Fourth of the *nasard*.** A species of *doublette* of 2′, usually included among mutation stops.
Quatre	*adj. num.*	Four.
Quelque	*adj.*	Some, a few.
Quintaton	*n. m.*	A Bourdon of 16′, sometimes of 8-ft. pitch, in which the harmonic of the twelfth is prominent.
Quinte flûte	*n. f.*	A mutation stop of $10\frac{2}{3}'$ (in the *Pédale*) or of $5\frac{1}{3}'$ (manuals or *Pédale*).

R

R.	*abbr.*	*Récit.*
Récit	*n. m.*	*org.* A division corresponding to our Swell-organ, and invariably placed in a separate swell-box. The manual keyboard is situated above the *Positif*.
Reconstruire	*v. t.*	To reconstruct, rebuild.
Registre	*n. m.*	Register, stop-knob.
Restaurer	*v. t.*	To restore, rebuild.
Rouleau	*n. m.*	Crescendo pedal. The name is derived from the wheel by which it is often operated in Germany. It is not in use in France.

S

Sacrê	*adj.*	Sacred. (*ant. profane.*)
Saint, -e	*n.*	Saint. *adj.*, holy.
Salicional	*n. m.*	(*lat. salix, salicis*, willow.) An 8′ stop of quiet tone, softer than the *diapason* and approaching in quality the *gambe* family.
Salle	*n. f.*	Hall, room.
Samedi-saint	*n. m.*	Saturday in Holy Week; Easter Even.

Sanctuaire	*n. m.*	*eccles. arch.* The space within the chancel rail, in front of the high altar; the Sanctuary.
Sans	*prep.*	Without.
Second	*adj.*	Second.
Seize	*adj. num.*	Sixteen.
Semaine	*n. f.*	Week. ***La semaine sainte***, Holy Week.
Septième	*n. f.*	A mutation stop sounding the 6th harmonic, or two octaves and a minor seventh above the fundamental.
Seulement	*adv.*	Only, alone.
Solo	*n. m.*	1. A division of the organ containing stops especially, although not exclusively adapted to solo use or effects of power. 2. The name sometimes given to the *bombarde* manual. 3. Solo, as opposed to *en détail* or *ensemble* (*q. v.*). When the word is placed in the *Pédale* part it indicates that no *Pédale* couplers are to be used. ***Solo en taille***, a solo part or melody in the tenor voice.
Sommier	*n. m.*	*org.* Wind-chest. ***Sommier à doubles laies***, a divided chest, the admission of the wind-supply to the action of one or both of whose divisions is controlled by a pedal. (See **Appel.**)
Son	*n. m.*	Sound, tone.
Sonorité	*n. m.*	Sonority, quality.
Sortie	*n. f.*	(*fr. sortir, v. i.*, to go out.) A composition suitable for performance while the congregation is leaving the church; a postlude.
Soubasse	*n. f.*	A *Pédale bourdon* of 32- or 16-ft. pitch.
Soupape	*n. f.*	Valve, pallet.
Strophe	*n. f.*	A verse of a hymn or canticle.
Suavial	*n. m.*	(*lat. suavis*, sweet.) A soft-toned Violin Diapason.
Supprimer	*v. t.*	*lit.* To suppress. To shut off, retire; as ***supprimez les jeux d'anches***, withdraw the reed stops.

T

Temple	*n. m.*	A Protestant church edifice.
Tierce	*n. f.*	A mutation stop sounding the 4th overtone, or two octaves and a major third above the fundamental.
Timbre	*n. m.*	Quality or color of sound.
Tirasse	*n. f.*	A pedal coupler. (See ***Accouplement.***)

Tirer	*v. t.*	To draw, pull; *imp.* ***tirez.***
Ton	*n. m.*	Key (of a composition); gregorian mode.
Touche	*n. f.*	Key (of a manual).
Toussaint	*n. m.*	The feast of All Saints (Nov. 1).
Tout	*adj.*	(*pl.* ***tous, toutes.***) All.
Traité	*n. m.*	Treatise, essay.
Traversière		See ***flûte traversière.***
Tremblant	*n. m.*	Tremulant.
Trente-deux	*adj. num.*	Thirty-two.
Très	*adv.*	Very.
Tribune	*n. f. arch.*	An elevated place reserved for persons of distinction. *eccles.* ***Tribune d'orgue,*** a gallery in a church wherein is located the principal organ, together with its console.
Trocadéro, ***Salle du***		A large concert hall in the *Palais du Trocadéro,* a building constructed for the Paris Exposition of 1878.
Trompette	*n. f.*	A powerful reed stop of 8- or 16-ft. pitch on the manuals, usually of 8-ft. in the *Pédale*; of clear and brilliant quality. ***Trompette harmonique,*** a *trompette* with double length pipes in the upper register.
Tuyau (*pl.* ***-x***)	*n. m.*	Organ-pipe.

U

Unda Maris	*n. f.*	(*lat.* ***unda,*** wave; ***mare,*** sea.) A vibrating stop of 8-ft. pitch similar to the *voix céleste,* but with slower beats.
Ut	*n. m.*	The first note of the scale of C. ***Ut majeur,*** C major. (The syllable *do* is used in solfeggio only.) Keys are designated in French by the syllables ***ut, re, mi,*** etc., instead of C, D, E, viz.: ***Ut majeur,*** C major; ***sol mineur,*** G minor; ***fa dièse mineur,*** F-sharp minor; ***si bémol majeur,*** B-flat major.

V

Vendredi-saint	*n. m.*	Good Friday.
Vêpres	*n. f. pl.*	*liturg.* Vespers; the principal afternoon service of the Roman Church, usually celebrated about two or three o'clock.
Verset	*n. m.*	A verse (of the Bible), versicle.
Viole	*n. f.*	(*it.* ***viola.***) The typical instrument of the like-named family, of which only the contrabass is in present orchestral use. An organ stop of string-tone and 8-ft. pitch.

Viole d'amour *n. f.* (*it. viola d' amore.*) An organ stop of 8-ft. pitch and soft string quality. The orchestral instrument from which the stop derives its name is now obsolete, although occasionally used by modern composers (*e.g.* Loeffler: *La Mort de Tintagilles*). It was of the *viole* family; had seven strings, together with seven smaller strings vibrating sympathetically. Its veiled tone is very beautiful.

Viole de gambe *n. f.* (*it. viola da gamba, lit.* leg-viol; in distinction to *viola da braccio,* arm-viol). The forerunner of the violoncello. *org.* (See ***gambe.***)

Violon *n. m.* Violin. An organ stop of 8-ft. pitch, of larger scale and fuller tone than the *gambe,* and usually placed on a manual.

Violon-basse *n. m.* A *Pédale* stop, of 16-ft., sometimes of 32-ft. pitch. Its positive quality is indispensable as an adjunct to the flutes of the *Pédale.*

Violoncelle *n. m.* A full-toned stop of 8-ft. pitch, generally placed in the *Pédale*; in quality between the *montre* and the *salicional.*

Voix céleste *n. f.* A *gambe* of 8-ft. pitch, tuned a little higher than the normal pitch of the organ, so that when combined with the ordinary *gambe* a vibrating or beating effect is produced.

Voix humaine *n. f.* *Vox humana*; an 8-ft. reed stop imitating with more or less success the sound of human voices.

BIBLIOGRAPHY

Aubry, Pierre, *Sur le Chant de l'Église*, in *Le Correspondent*. Paris, July 10, 1904.

Audsley, G. A., *The Art of Organ-building*. 2 vols. New York, Dodd, Mead and Co., 1905.

Berlioz, Hector, *Grand Traité d'Instrumentation et d'Orchestration modernes*. Paris, Lemoine et Fils.

Blunt, John Henry, Ed., *The Annotated Book of Common Prayer*. Rev. ed. 1903. N. Y., E. P. Dutton & Co.

Bricqueville, Eugène de, *Notes historiques et critiques sur l'Orgue*. Paris, Fischbacher, 1899.

Cellier, Alexandre, *L'Orgue moderne*. Paris, Ch. Delagrave, 1913.

Fage, J. Adrien de la, *Orgue de l'Église Royale de Saint-Denis. Rapport fait à la Société Libre des Beaux-Arts*. 2d ed., Paris, 1846.

Gevaert, F.-A., *Nouveau Traité d'Instrumentation*. Paris-Brussels, Lemoine et Fils, 1885.

Goodrich, Wallace, *The Organ; Its Construction and Treatment*. Two Essays. Reprinted from the *Musical Herald*, Boston, by Novello, Ewer and Co., New York, 1899.

Guédon, Joseph, *L'Orgue moderne*. Part III of *Nouveau Manuel Complet du Facteur d'Orgues* of the Encyclopédie Roret; Parts I and II being *L'Art du Facteur d'Orgues* by Dom Bédos de Celles and *Nouveau Manuel complet du Facteur d'Orgues*, by Marie Pierre Hamel. Paris, L. Mulo, 1903.

Helmholtz, Ferdinand von, *On the Sensations of Tone* (*Die Lehre von den Tonempfindungen*). Translated by Alexander J. Ellis. 4th edition. London, Longmans, Green and Co., 1912.

Hill, Arthur George, *The Organ-cases and Organs of the Middle Ages and Renaissance*. London, 1883.

Hull, A. Eaglefield, *Organ Playing*. London, Augener and Co., Ltd.

Indy, Vincent d', *César Franck*. Paris, Alcan, 1906.

Internationales Regulativ für Orgelbau. Entworfen und bearbeitet von der Sektion für Orgelbau auf dem Dritten Kongress der Internationalen Musikgesellschaft, Wien, 1909. Leipzig, Breitkopf und Härtel.

La France Catholique. Annuaire du Clergé et des Œuvres. Paris, 1913.

Lamazou, Abbé, *Étude sur l'Orgue monumentale de Saint-Sulpice et la Facture moderne*. Paris, E. Repos.

Miller, George Laing, *The Recent Revolution in Organ Building*. New York, 1913.

Peschard, Albert, *Les premières Applications de l'Électricité aux Grandes Orgues.* Paris, Larousse, 1890.

Philibert, Ch.-M., *Causerie sur le Grand-Orgue de Saint-Ouen à Rouen.* Avranches, 1890.

Pirro, A., *L'Orgue de Bach.* (With a Preface by Charles-Marie Widor.) Paris, Fischbacher, 1895.

Johann Sebastian Bach and His Works for the Organ. Translated from the French by Wallace Goodrich. New York, G. Schirmer, 1902.

Plon, H., *Grand Orgue de l'Église Métropolitaine Notre-Dame de Paris. Extrait du Rapport. . . .* Paris, 1868.

Saint-Saëns, Camille, *Music in the Church,* in *The Musical Quarterly.* New York, January, 1916.

Schweitzer, Albert, *Deutsche und Französische Orgelbaukunst und Orgelkunst.* Leipzig, Breitkopf und Härtel.

Strauss, Richard, *Instrumentationslehre von Hector Berlioz. Ergänzt und revidiert.* Leipzig, Peters, 1905.

Wedgwood, James Ingall, *A Comprehensive Dictionary of Organ Stops.* 4th ed. London, Vincent Music Co., Ltd.

Widor, Charles-Marie, *La Révision du Plainchant,* in *Le Correspondent.* Paris, July 10, 1904.

Widor, Charles-Marie, and Schweitzer, Albert, Preface to *The Organ Works of Johann Sebastian Bach. A Critico-Practical Edition.* New York, G. Schirmer, 1912.

Widor, Charles-Marie, *Technique de l'Orchestre Moderne.* 4th ed., Paris, Henry Lemoine et Cie, 1910.

ORGAN COMPOSITIONS REFERRED TO

	Publisher	Page
Bonnet, Joseph,		
Canzona	Leduc	51
Lamento	"	81
Prélude	"	52
Nocturne	"	52
Trois Versets sur l'Ave Maris Stella	"	34
Boëllmann, Léon,		
Suite gothique	Durand	61
Chausson, Ernest,		
Versets pour les Vêpres des Vierges	Schola Cantorum	96
Chauvet, A.,		
Andantino in E major	Pérégally et Parvy Fils	71
Andante con moto in D major	Pérégally et Parvy Fils	67
Dallier, H.,		
Six Préludes pouvant servir de Magnificat pour le Toussaint	Leduc	50
Dubois, Th.,		
Fugue in D major	"	51
Noël	"	52
Fiat Lux	"	42
In Paradisum	"	78
Ducasse, Roger,		
Pastorale	Durand	78
Franck, César,		
Fantaisie in C major	"	51
Pièce symphonique	"	51
Prière	"	10, 51, 71
Pastorale	"	69
Cantabile	"	69
Pièce héroïque	"	52, 71
Chorales	"	10, 51, 61, 71, 75

	Publisher	Page
Gigout, E.,		
Rhapsodie sur des airs populaires du Canada	Durand	102
Pèlerinage	"	96
Guilmant, Alexandre,		
Communion in G major, Op. 15	"	70, 98
Prière in F major, Op. 16	"	99, 110
Méditation in A major	Durand; Schirmer	99
Allegro in F sharp minor	" "	100
Caprice in B flat major	" "	106
Cantilène-Pastorale	Durand	110
Marche de Procession	Durand; Schirmer	72, 108
Marche funèbre et Chant séraphique	" "	72, 108
Lamentation	Durand	61, 75, 100, 107
Grand Chœur in D major	Durand; Schirmer	107
Canzona, Op. 90	Durand	101
Offertoire in A minor, Op. 90	"	101
Sonata in D minor, Op. 61	Schott; Durand; Schirmer	70, 102
d'Indy, Vincent,		
Prélude et petit Canon	Durand	72, 97
Versets pour les Vêpres d'un martyr	Schola Cantorum	59
Jacob, Georges,		
Symphonie	Leduc	55
Les Heures Bourguignonnes	"	50, 55
Lemaigre, A.,		
Pastorale	"	67, 70
Andante religioso	"	72
Maquaire, A.,		
Symphonie	Hamelle	52, 55
Pierné, G.,		
Prélude	Durand	52, 102
Quef, Charles,		
Andante cantabile	Leduc	78
Tristamento	"	57
Fabliau	"	77
Saint-Saëns, Camille,		
Rhapsodie in E major	Durand; Schirmer	10, 106
Salomé, Th.,		
Offertoire in F minor	Leduc	70
Sévérac, Déodat de,		
Suite pour Orgue	Schola Cantorum	71

	Publisher	Page
Tombelle, F. de la,		
Canzonetta	Richault	98
Tournemire, Ch.,		
Pièce symphonique	Schola Cantorum	52
Vierne, Louis,		
1ère Symphonie:	Pérégally et Parvy Fils	63
I (*Prélude*)		52, 61, 71, 75
VI (*Final*)		92
2me Symphonie:	Noël	
I (*Allegro*)		52, 61
II (*Choral*)		57
IV (*Cantabile*)		67, 74
V (*Final*)		61
Vierne, René,		
Prélude grave	Schola Cantorum	51
Widor, Ch. -M.,		
2me Symphonie:	Hamelle	
I (*Praeludium circulare*)		51
II (*Pastorale*)		56, 59
III		51, 72
IV (*Salve Regina*)		56, 81
4me Symphonie:	"	
III (*Andante cantabile*)		52
IV (*Scherzo*)		77
5me Symphonie:	"	
III		51, 71, 74
IV		54, 55, 59
6me Symphonie:	"	
I		37, 42[1]
II		54, 81
III		80
7me Symphonie:	"	
II (*Choral*)		77
IV		57, 72
V		52
8me Symphonie:	"	
I		34, 43
II		72
IV (*Variations*)		52, 55

	Publisher	Page
Widor, Ch. -M. (*continued*),		
Symphonie gothique:	Schott	11
I		52, 71
II		55, 78
IV		55, 81
Symphonie romane:	Hamelle	11, 34
I		75
II (*Choral*)		55, 77
III (*Cantilène*)		43
IV (*Final*)		42, 75

GENERAL INDEX

Abbey Frères, 35[2].

Abbey, John (1785–1859), 4[1].

Adaptation. By American editors, 64, 104 ff ; special treatment necessary for organs other than French, 68 ff, 72 ff ; foundation stops, on all manuals, 68 ; of the *Grand-orgue*, 69 ff ; modification of manual changes necessary, 73 f ; elements of musical sound : designations of pitch and intensity standardized, but not of quality, 76 ; flutes, 76 ff ; strings, 78 ff ; general inadequacy of translation, xiii, 64, 96 ff, 102 ff, 108 f; numerical designation of keyboards unwise, 99, 110 ; A. judged in light of period at which made, 104 ff ; need of new editions for American organs, 105 ; comparison of present and former Pedale, 105 ; indications lacking, 107 ; proposed system of designating registration in A., 109 f.

Auber, Daniel François Esprit (1782–1871), 9 (footnote), 15.

Augmentation, system of, 23 f, 82, 84 ff, 94. Defined, 84 ; little used in France, 24, 33, 95 ; effect on tonal quality of ensemble, 24, 86, 94 ; saving in number of pipes effected, 84 ff ; loss of individuality of registers so derived, 86, 88 ff, 94 ; opinions of experts, 89[1], 94 f.

B

Bach, Johann Sebastian (1685–1750), 8, 12 f, 22, 33[1], 56, 92 ff.

Bègue, Nicolas Antoine Le (1630–1702), 7.

Benoist, François (1794–1878), 8 f, 15.

Berlioz, Hector (1803–1869), 8, 27 f.

Boëllmann, Léon (1862–1897), 9.

Bordes, Charles (1863–1909), 3[1].

Borrowing, system of, 24, 33, 82, 84, 87 ff, 94. Defined, 87 ; difference between systems of B. and Augmentation, 88 ; little used in France, 24, 33, 95 ; effect on ensemble, 24, 89, 92, 94 ; between manuals, 87 f ; from manuals to Pedale, 87 f, 90 ; in use in England two hundred years ago, 87 ; advantages of B. in small instruments, 87 ; in large instruments, 87 f ; regulations of International Congress, 87[1] ; disadvantages of B., 89, 94 ; opinion of experts, 89[1], 94 f ; special treatment of Pedale necessary in adaptation, 90, 94 ; illustrative table (Pedale), 91 ; effect on Bach's music, 92 f.

C

Cavaillé-Coll, Aristide (1811–1899), 16 ff, 20[1], 35[2], 36, 61[1], 93 f.

Cellier, Alexandre, 46.

Cherubini, Maria Luigi (1760–1842), 7, 9 (footnote).

Chœur, orgue de (see ***Orgue de chœur***).

Churches. Number of edifices in Paris, 1 f ; edifices described,

2 f ; description of interior, 3 ; acoustic properties, 3, 11, 19 f ; architectural points of compass, 4[5].
Church, Roman Catholic. Predominance in France, 1, 14 ; population in France, 1 ; population in Paris, 2 ; diocesan system, 1 ; "Church and State," 1 ; *Concordat*, 1 ; Separation, Law of, 1 ; parochial administration, 1 f ; services, 2 f, 5, 14 ; use of organ in same, 4 ff, 12 f ; Mass, 5, 13 ; Choir Offices, 5 ; Vespers, 5 ; influence of liturgy upon organ composition, 5 f, 9, 11, 49.
Clavecinistes, 7.
Clérambault, Louis-Nicolas (1676–1749), 7.
Clicquot, François-Henri (1728–1791), 15.
Communication, system of (see Borrowing).
Composition for Organ in France (see Organ Composition).
Conservatoire (Paris), 8 f, 13.
Couperin, François (1668–1733), 7.

D

Daquin, Louis-Claude (1694–1772), 7.
Debierre, Louis, 35[2].
Dédoublement, system of (see Augmentation).
Dubois, [François Clément] Théodore (1837–), 9.
Ducasse, Roger, 11.

F

Fauré, Gabriel [Urbain] (1845–), 9 (footnote).
Franck, César (1822–1890), 8 f, 62. Compositions, 10, 69, 74[1, 2].

G

Gevaert, François-Auguste (1828–1908), 28.
Gigout, Eugène (1844–), 9 (footnote), 69.
Grand-Orgue (see also Organ, in France). Location, 4, 19 f ; relative size, 4 ; how employed, 4 ff ; construction often supervised by commission, 14 f.
Gregorian music, (see Plainsong).
Griepenkerl, Friedrich Konrad (1782–1849), 8.
Grigny, Nicolas de (16— 17—), 7.
Guilmant, [Félix] Alexandre (1837–1911), 3[1] ; editions of old masters, 11 ; Trocadéro concerts, 13 ; compositions, 9 ff, 37[1], 39[1], 63.

H

Halévy, Jacques Fromental Élie (1799–1862), 7.
Harpsichord, 7.
Helmholtz, Hermann Ludwig Ferdinand (1821–1894), 27.
Hesse, Adolf Friedrich (1809–1863), 8, 22[1].

I

Improvisation, xi, 6, 11 ff.
Indy, Vincent d' (1851–), 3[1], 74[1].
Interchanging of stops (see Borrowing).

J

Jacob, Georges, 11, 13.

K

Kittel, Johann Christian (1732–1809), 8.

L

Lefébure-Wély, Louis James Alfred (1817–1869), 12.
Lemmens, Nicolas-Jacques (1823–1881), 8 f, 15.

M

Méhul, Étienne-Nicolas (1763–1817), 7.
Mendelssohn[-Bartholdy, Jakob Ludwig] Felix (1809–1847), 8.
Merklin, Joseph (1819–1905), 35[2].
Mutin, Charles, 16[1], 18, 22[1], 35[2], 94 f.

N

Nivers, Guillaume-Gabriel (1617–170–), 7.

O

Octave duplication, system of (see **Augmentation**).
Orchestra, analogy of organ to, 65 f.
Organ (see also *Grand-Orgue*). GENERAL. Relative importance of composition and performing instrument, x f; responsibility of organist, x f; employment in dramatic works, xii; acoustic conditions, 19 f; mixtures, 24 ff, 37, 79; crescendo pedal, 57 f.

IN THE UNITED STATES. Former methods of construction, v, 82 ff; electro-pneumatic action, introduction of, v; use of O., v f; recent improvements in methods of construction, v ff, x f; advantages derived from modern methods, vii, ix ff; interest in O. among musicians and composers, vii f, xi; function of O., viii f; organists should possess knowledge of construction, viii f; imitative features, viii; orchestral arrangements, vii f; the Unit Organ, xiii, 24; differences in construction and voicing in France and the United States, 18, 68 ff, 105; differences in intensity of certain stops in F. and the U. S., 76 ff, 98 ff, 105; reduction in number of mutation ranks, 24 f, 46; former character of Choir-organ, 70; present character of same, 40[2], 70 f, 74 f, 77; stop nomenclature, 44 ff, 50; contemporary characteristics of voicing or specification, 58, 66 f, 70 f, 77 ff, 82 ff, 105; Pedale of thirty years ago, 82 ff, 105; Pedale of last decade, 90 f, 105; solo stops, 50; Grossflöte, 53, 77 f, 105; Flutes, 77 f, 100, 105, 107; Gamba, 53 f, 78 f, 98, 100, 105 ff; Voix célestes, 54, 79[1]; foundation stops of the Great-organ, 71 ff, 98 f, 102; use of Choir instead of Great, 70 ff, 99; Diapasons of the Great-organ, 101, 107 f; Pedale stops, 105.

IN FRANCE (see also *Grand-Orgue*). GENERAL: xiii f, 1, 14, 18 f, 21, 35[2], 68; in 16th and 17th centuries, 7; ecclesiastical association, 5, 9; use of O. in church services, 1, 4 ff; use in concert, 13; imitative qualities practically disregarded, 18. MECHANICAL CONSTRUCTION: Console, 41 ff; tracker action, 35; tracker-pneumatic a., 16 f, 35; electro-pneumatic a., 17, 35 f; tubular-pneumatic a., 36; pneumatic lever (*machine Barker*), 17; wind-chests, how divided, 16[1], 36; wind-pressures, 16[1] f, 36; ventil system, 37 ff, 59 ff, 75; order of manuals, 30, 43; lowest keyboard as coupling manual, 30, 36[1], 37, 58; compass of manuals, 42; compass of Pedale, 42; swell-box, 22, 40 f, 61 f, 74[2]; use of swell-box, 52, 60 ff, 72; swell-pedal, 35, 40. MECHANICAL ACCESSORIES: general, 35 ff, 59 ff; *registres de combinaison*, 35, 39 f; tremulants, 35, 39, 41; other mechanical accessories

usually operated by pedals, 39, 59, 103; type of latter, 60[1]; manual couplers, 30, 35 ff; Pedale c., 33, 35 ff; octave c., 37; sub-octave c., 37; *pédales de combinaison* (*p. d'appel*), 35, 38 f. REGISTERS: specification, general characteristics of, 21 ff, 49 ff, 65 ff, 73; of the *Grand-orgue*, 22, 67, 80; *Positif*, 22, 67 f; *Récit*, 17 (footnote), 61 f, 68; *Bombarde* or *Solo*, 30; *Grand-chœur*, 30, 36[1]; *Écho*, 30; *Pédale*, 31 ff. Nomenclature, 44 ff, 64; classification, 46 ff; harmonic pipes, 16[1] f; pipes, material of which made, 22[1]; *fonds*, 21, 23, 45 f; *anches*, 22 f, 45 f, 80; mutation stops, 22, 45 f, 68; *mixtures*, 17 (footnote), 22 f, 25 f, 38, 41[1], 45 f, 68[1], 80; *m.* in the Pedale, 26, 31[2]; Pedale stops, 32 f, 55 f; *montre* or *principal*, 72; *violoncelle*, 53, 55, 79 f; *kéraulophone*, 53; *salicional*, 53, 79 f; *gambe*, 53 f, 78 ff, 81; *voix céleste*, 53 f; *flûtes*, 45, 52 f; harmonic f., 52 f, 76 f; f. in the Pedale, 55; *bourdons*, 45, 98; *bourdon 16′* on the *Grand-orgue*, 97 f, 108 f; solo stops, 21, 49 f, 55 f, 65, 77 f; obsolete stops, 41. REGISTRATION: general, 9, 50 ff; combination of manuals, 51, 56 f, 71; *Pédale*, 55 f; general crescendo, how effected, 59 ff, 74 f; manual indications, how abbreviated, 71[1]; *fonds*, 51, 69; *fonds et anches*, 51 f; *fonds* contrasted to other colors, 52; *flûtes*, 76; *gambes*, 81.

Organs. IN PARIS. Saint-Eustache, 8, 14, 121; Trocadéro, 13, 83, 124; Saint-Sulpice, 14 ff, 20[1], 22[1], 25[1], 30, 36[1], 41, 68[1], 80, 114 f; Notre-Dame, 14 f, 16, 26, 30, 36[1], 116 f; Saint-Denis, 14, 16, 122 f; Sainte-Clothilde, 8, 69[2], 74[1], [2], 127; Saint-Augustin, 17 (footnote); Saint-Roch, 17 (footnote); La Trinité, 17 (footnote); Saint-Vincent-de-Paul, 17 (footnote); Sacré-Cœur, 22[1], 118 f.

Saint-Michel, Havre, 17 (footnote); Palais d'Industrie, Amsterdam, 17 (footnote); Town Hall, Sheffield, 17 (footnote); Conservatory of Music, Moscow, 17 (footnote). (See also Index of Specifications, p. 112.)

Organ composition. French school, xi, 9, 11, 18; individuality of, xi; compared to that for other instruments, xii; editions for American organs, xiii; in 16th and 17th centuries, 7; middle of 19th century, 7; concert pieces, 10.

Organ playing, characteristics of in France, 18, 49, 62 f.

Orgue de chœur. Location, 4; employment, 4; *Pédale* reinforced by contrabasses, 4; specifications, 134 f.

P

Plainsong. In French churches, 3; influence on organ composition, 9.

Polyphonic music, mediæval, 3 f.

Puget et Fils, 35[2].

R

Raison, André (ca. 1650– ?), 7.

Rameau, Jean-Philippe (1683–1764), 7.

Rinck, Johann Christian Heinrich (1770–1846), 8.

Roitzsch, F. August (1805–1889), 8.

S

Saint-Gervais, Chanteurs de, 3[1].

Saint-Saëns, [Charles] Camille

(1835–), 8, 12 f, 62 ; compositions, 10, 69.
Schola Cantorum, 3[1].
Schweitzer, Albert, 22, 25 f, 31, 57 f, 62 f, 69, 73[1], 93.
Strauss, Richard (1864–), 28.

T

Thomas, [Charles Louis] Ambroise (1811–1896), 9 (footnote).
Titelouze, Jean (15——1633), 7.
Transmission, system of (see Borrowing).

V

Vierne, Louis, 11, 63.

W

Wedgwood, James Ingall, 29 f.
Widor, Charles-Marie (1845–) 9, 22, 37[1], 39[1], 62 f, 73[1] ; *symphonies*, 10 f, 69.

LIST OF ILLUSTRATIONS

THE ORGAN OF SAINT-SULPICE, PARIS . . . *Frontispiece*

The height of the *tribune*, or gallery, from the floor of the Nave, is about 35 ft.

For dimensions and description of the organ, see pp. 15, 16, 20[1].
(See Specification I, p. 114.)

OPPOSITE PAGE

SAINT-SULPICE, PARIS. THE NAVE 2

Length of interior, 360 ft.; width, 155 ft. The *orgue de chœur* and the choir of men and boys, which is usually reinforced by a chorus of about two hundred seminarians, all are placed behind the high altar, between the latter and the Ambulatory. (See also Frontispiece.)

ALEXANDRE GUILMANT 10

Born at Boulogne-sur-Mer, March 12, 1837; died at Meudon-sur-Seine, Paris, April 30, 1911.

Organist of La Trinité, Paris, from 1871 to 1901. Professor of the Organ, Paris Conservatory, 1896–1911.

ARISTIDE CAVAILLÉ-COLL 16

Born at Montpellier, February 2, 1811. Died at Paris, October 13, 1899. (See foot-note, p. 16.)

THE ORGAN OF SAINT-EUSTACHE, PARIS 24

(See Specification V, p. 121.)

THE CATHEDRAL OF NOTRE-DAME, PARIS. THE NAVE FROM THE ALTAR 30

Total length of interior of the Cathedral, 426 ft.; width of Nave and double Aisles, 164 ft. Width of Nave, 33 ft.; height, 110 ft. The *orgue de chœur* and its console are shown on the north side of the Choir; with the *Grand Orgue* in a gallery in the west end of the Nave. (See Specification II, p. 116.)

SAINT-GERMAIN-L'AUXERROIS, PARIS 36

A typical urban parish church.

CONSOLE OF THE ORGAN, CATHEDRAL OF NOTRE-DAME, PARIS 42

The pedal movements are grouped as follows, from left to right: *Tirasses* (Pedale couplers) at extreme left; *accouplements* (manual couplers) (5); *pédales de combinaison* (ventils) (4); *octaves graves* (sub-octave couplers) (5); Tremulant *Récit; Expression Récit.* This drawing is of the console as it stood after the reconstruction of the organ in 1868. At the present day swell-pedals are invariably placed in or near the center of the toe-board, and the swell-folds balanced.

This illustration follows the original engraving. It will be noted that the manual keys are incorrectly drawn; their compass should be from C to g^3, 56 notes.

OPPOSITE PAGE

LA MADELEINE, PARIS 48

Length of interior, 354 ft.; width, 141 ft.; height, 100 ft. The choir of men and boys and the *orgue de chœur* are placed behind the high altar. The *Grand Orgue* is in a gallery over the western portal of the Nave. (See Specification IX, p. 126.)

CHARLES-MARIE WIDOR 54

Born at Lyons, February 22, 1845.
Organist of Saint-Sulpice since 1870.
Professor of the Organ at the Paris Conservatory (succeeding César Franck), 1890–1896. In the latter year he succeeded Dubois as Professor of Composition.

CHARTRES CATHEDRAL. THE NAVE AND CHOIR . . . 60

Length, 365 ft. Width of Nave, 52 ft.; height, 118 ft. at the Crossing. The *Grand Orgue* occupies the upper part of the two easternmost bays on the south side of the Nave; a somewhat unusual but most advantageous position, from the standpoint of tonal effect. (See Specification XII, p. 129.)

THE ORGAN OF CHARTRES CATHEDRAL 60

Height of organ from floor of Nave, about 50 ft.; the organ-case is 40 ft. in width and 50 ft. high. (See Specification XII, p. 129.)

CÉSAR FRANCK 66

(After the painting by Jeanne Rongier.)
Born at Liège, December 10, 1822; died at Paris, November 8, 1890. Became a naturalized Frenchman in 1870. Organist of Sainte-Clothilde, 1858–1890; Professor of the Organ at the Paris Conservatory, 1872–1890.

THE ORGAN OF SAINT-MACLOU, ROUEN 72

Noted for the beauty of its case.

CAMILLE SAINT-SAËNS 80

Born at Paris, October 9, 1835.
Organist of La Madeleine 1858–1877; he was succeeded by Dubois.

BAYEUX CATHEDRAL. THE NAVE FROM THE CHOIR . . 86

Length of interior, 315 ft. Width of Nave, 33 ft.; height to the vaulting, 75 ft. The *orgue de chœur* and its console are shown; also the *Grand Orgue* in the west end of the Nave.

CHARLES MUTIN 94

Successor to Aristide Cavaillé-Coll.

REIMS CATHEDRAL. *Le Grand Orgue* 100

Situated in the North Transept, over the Portal.

REIMS CATHEDRAL. *L'Orgue de Chœur* 110

Situated on the south side of the Chancel.

ORGAN-CONSOLE OF THE BASILICA OF THE SACRÉ-CŒUR, PARIS. REGISTER-PLAN 118

Showing the arrangement of the registers and pedal-movements, and the order of the key-boards. (The numbers refer to the corresponding registers in Specification III.)
By courtesy of M. Charles Mutin, 1914.

UNIVERSITY OF ILLINOIS-URBANA
786.5G62O C001
THE ORGAN IN FRANCE BOST
3 0112 014625773

CO-ATA-031